JAN 18 1918
UNIV. OF MICH.
LIBRARY

California State Journal of Medicine

ISSUED MONTHLY: OWNED AND PUBLISHED BY THE
MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

Vol. XVI, No. 1 JANUARY, 1918 $1.00 a Year

CONTENTS.

Editorials 1
Editorial Comment 3

SPECIAL ARTICLES:

Present Status of Health Insurance in California. By René Bine, M. D..... 4
Venereal Situation Among the Forces at War. By John C. Spencer, M. D..... 5

ORIGINAL ARTICLES:

Appendicitis in Childhood. Study of One Hundred Cases. By Langley Porter, M. D.....10
Rat Bite Fever With Report of Two Cases. By F. F. Gundrum, M. D.....16
A Conservative Physician's View of the Proposed Social Health Insurance Schemes. By C. G. Simmons, M. D.....18
Exfoliative Cystitis. By Granville MacGowan, M. D.....21
Internal Hemorrhoid Operation and After Care Under Quinine Urea Hydrochloride Anesthesia. By E. J. Clemons, M. D.....23
Some Remarks on Laryngeal Affections. By H. B. Graham, M. D. 25
Report of a Case of Otitic Meningitis. By E. C. Sewall, M. D. 28

(Contents continued on page IX.)

ENTERED AT SAN FRANCISCO, CAL. AS SECOND-CLASS MATTER

The Acid Test

The acid test of a medical dictionary is its *new word service*—its unfailing and quick response to your search for the meaning of new words. The *new (9th) edition of*

The American Illustrated Medical Dictionary

is *newer by one year* than any other medical dictionary on the market. For this reason alone it defines hundreds of new words not found in any other lexicon. Take, for instance, those words and abbreviations introduced into medical literature by the war. Can you find these *war words and war abbreviations* in any other dictionary?—

WAR WORDS		WAR ABBREVIATIONS	
ambrine	javellization	D. N. B.	R. S. B.
brassard	réforme	H. S.	S. G. O.
brilliant green	tolamine	M. O.	T. N. T.
chloramine-T	trench back	N. A. D.	V. D. G.
chlorazene	trench foot	P. U. O.	V. D. H.
flavine	trypaflavine		V. D. S.

As with war words, so it is with every branch of the medical sciences. The new words are here —*2000 of them*—and in hundreds of instances you can find them in no other dictionary. If you are considering buying a new dictionary—and only a *new* one will give you *real service*—by all means put *The American Illustrated Medical Dictionary* to the test.

Octavo of 1179 pages, with 327 illustrations, 115 in colors. Edited by W. A. NEWMAN DORLAND, M. D. Bound in flexible leather, $5.00 net; with thumb-index, $5.50 net.

W. B. SAUNDERS COMPANY **Philadelphia and London**

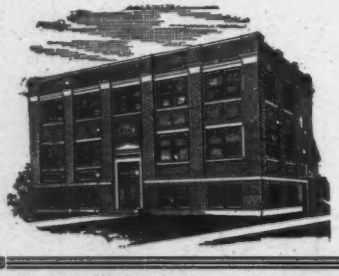
FRANK F. WEDEKIND---TRUSSES, ELASTIC GOODS ABDOMINAL SUPPORTERS

(SEE PAGE XI)

USE VACCINES
IN ACUTE INFECTIONS

The early administration of Sherman's Bacterial Vaccines will reduce the average course of acute infections like Pneumonia, Broncho-pneumonia, Sepsis, Erysipelas, Mastoiditis, Rheumatic Fever, Colds, Bronchitis, etc., to less than one-third the usual course of such infectious diseases, with a proportionate reduction of the mortality rate.

Sherman's Bacterial Vaccines are prepared in our specially constructed Laboratories, devoted exclusively to the manufacture of these preparations and are marketed in standardized suspensions.



Write for literature.

MANUFACTURER OF BACTERIAL VACCINES

G. H. SHERMAN, M.D.
Detroit, Mich.
U.S.A.

Hynson, Westcott & Dunning

Pharmaceutical Chemists
Baltimore, Maryland

Thorough Modern Diagnosis

Would seem to include Blood Conditions Respecting Acidosis which may be plainly shown by the apparatus we are offering for indicating the

Hydrogen-Ion Concentration of the Blood
Carbon Dioxide Tension of Alveolar Air
Alkali Reserve of the Blood Plasma

As suggested by Drs. Marriott, Levy and Rowntree

See the Archives of Internal Medicine, September, 1915, Vol. XVI, pages 389-405 and June, 1916, Vol. XVII, Part I, pages 840-851, also The Journal of the American Medical Association, May 20, 1916, Vol. LXVI, pages 1594-1596.—Reprints of these papers will be furnished upon request.

Literature and Full Directions Upon Request

TELEGRAPH OR MAIL YOUR ORDERS TO

908 Butler Building **Fred I. Lackenbach** *San Francisco, Cal.*

Sutter 3122 (Private Exchange)

California State Journal of Medicine

OWNED AND PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA
BUTLER BUILDING, 135 STOCKTON STREET, SAN FRANCISCO

Editor - - - - - - - - - - ALFRED C. REED, M. D.

Publication Committee:
E. C. FLEISCHNER, M. D. A. B. GROSSE, M. D. SOL HYMAN, M. D. GEORGE H. EVANS, M. D.

Advertising Committee:
R. E. BERING, M. D. THOS. E. SHUMATE, M. D.
Representative of the Council, E. N. EWER, M. D.

COUNTY ASSOCIATE EDITORS:

Alameda.....Dr. Pauline S. Nusbaumer, Oakland	San Bernardino.....Dr. C. L. Curtiss, San Bernardino
Butte.....Dr. Edward Baumeister, Chico	San Diego.....Dr. Robt. Pollock, San Diego
Contra Costa.....Dr. U. S. Abbott, Contra Costa	San Francisco.....Dr. René Bine, San Francisco
Fresno.....C. O. Mitchell	San Joaquin.....Dr. Dewey R. Powell, Stockton
Glenn	San Luis Obispo..Dr. Paul K. Jackson, San Luis Obispo
Humboldt	San Mateo
Imperial	Santa Barbara.....Dr. R. M. Clarke, Santa Barbara
Kern.....Dr. C. A. Morris, Bakersfield	Santa Clara.....Dr. Chas. Richards, San Jose
Lassen-Plumas	Santa Cruz
Los Angeles.....Dr. Wm. Wenzlick, Los Angeles	Shasta.....Dr. F. Stabel, Redding
Marin	Siskiyou.....Dr. Wm. F. Shaw, Yreka
Mendocino.....Dr. O. H. Beckman, Fort Bragg	Solano.....Dr. P. H. Reilly, Vallejo
Merced	Sonoma.....Dr. Elizabeth M. Yates, Santa Rosa
Monterey.....Dr. T. C. Edwards, Salinas	Stanislaus.....Dr. E. F. Reamer, Modesto
Napa	Tehama
Orange.....Dr. H. A. Johnston, Anaheim	Tulare.....Dr. J. T. Melvin, Porterville
Placer	Tuolumne
Riverside.....Dr. Paul E. Simonds, Riverside	Ventura.....Dr. C. A. Jenson, Ventura
Sacramento.....Dr. Wm. A. Beattie, Sacramento	Yolo
San Benito	Yuba-Sutter

Contributors, subscribers and readers will find important information on the sixteenth advertising page following the reading matter.

VOL. XVI JANUARY, 1918 Number 1

CALIFORNIA DOCTORS IN SERVICE.

On another page of this issue of the JOURNAL appear the names of those physicians of California who have been commissioned in the government medical services. The list is incomplete and may contain inaccuracies. Partly to remedy these two faults is it published. It is requested that each reader will particularly scrutinize it and report at once any omission or inaccuracy noted. The latest figures now available cover only through the early part of November. It is requested that all commissions accepted up to December 31 be reported at once if not already on this list.

The list is published, however, not solely for the sake of obtaining a corrected roll, but also for the more noble purpose of doing honor to those of our number who have been so fortunate as to receive commissions. Their honor is to some small extent reflected on us who stay behind for the time. We are proud of them and we are proud to belong to their profession. As they have gone and we stay behind, it behooves us to do our bit with a right good will that their sacrifice be not fruitless, that their exertions be not neutralized by lack of enthusiastic and effective support. From time to time various avenues of home service have received comment in the JOURNAL. Behind all avenues of service, it behooves us to have the spirit of sacrifice for which President Wilson pleads. It behooves us to keep the home fires burning, not only for ourselves but for those who have gone.

It is hoped from time to time to publish supplemental service lists.

AMERICAN MANUFACTURE OF SALVARSAN.

The Federal Trade Commission has entered orders for the license of three firms to manufacture and sell salvarsan under the American name of "arsphenamine." The control of standards and quality of product will devolve upon the Federal Public Health Service. The three firms to be licensed, are the Dermatological Research Laboratories of Philadelphia, the Takamine Laboratory of New York, and the Fabwerke Hoechst Company (Herman A. Metz Laboratory) of New York. The original patent was issued to Paul Ehrlich and Alfred Bertheim, both Germans. It is announced officially that some of the licensees in this country will supply the drug at the price of one dollar per dose to the Army and Navy, $1.25 to hospitals, and $1.50 to physicians.

An interesting comparison lies between the action of Ehrlich in patenting salvarsan, and the action of the discoverer of tethelin in also patenting his discovery but in vesting all rights to the patent in a university with the special object of making it universally available and at the same time of turning to beneficent and scientific purposes any financial gain to be derived from it. The Principles of Ethics of the American Medical Association succinctly state, "It is equally de-

rogatory to professional character for physicians to hold patents for any surgical instruments or medicines." The German Ehrlich profited by his salvarsan patent. The American Robertson demonstrated again the prevailing spirit of service and social efficiency which characterize American medicine and science.

PERIODIC PHYSICAL EXAMINATION.

It is such an old story. Every doctor knows it. Most patients know it. But the trouble is that he and they are too busy to remember it. Both are prone to let well enough answer. No man can get himself in sufficient perspective to see his own beginning physical and mental infirmities. Few can do it for their moral shortcomings. Even the doctor himself does not always elicit the significant history of a little undue weariness, or slight breathlessness, or hazy vision, or inability to make physical and mental adjustments in reflex fashion. All the numerous little danger signals which a careful history will bring to light are of course really more important than leading symptoms and syndromes at a later stage. And the whole question consists first in getting the man in apparent health to recognize this modern form of life insurance, and in the second place to get the physician to deliver *his* side of the obligation and discover the danger signals when they are present.

How many closeted skeletons of the doctor's memory rise at the suggestion of the case whose nervous eccentricities did not lead to a Wassermann reaction, and who a few years later was a paretic? How many cardiacs and nephritics are such because the doctor did not recognize the early stages, or in any case, did not warn the victim of his peril and the way of escape? It is evident that there are two sides to the question of periodic medical examinations. And the doctor's side is equally important, if not so slighted, as the patient's side.

Consider it as life insurance, consider it as business insurance, consider it from the standpoint of statistics of the high percentage of unsuspected defects and disease uncovered in every group examination,—consider it as the personal point of attack of the modern science of preventive medicine,—and in each case the argument is lucid, and to most of us, self-evident.

Every physician should preach and practice periodic medical examination, at least once yearly when in apparent health. It is reasonable, and represents the best development of the physician's art, the prevention of disease in the individual.

THE CONSERVATION OF VITAMINS.

With the present concern over food supply, comes the pitfall for both institutions and individuals of a dietary deficient in vitamins. We do not know what vitamins are. The name is doubtless a misnomer. Accessory food substances necessary for growth and maintenance of healthy nutrition would better describe them. Yet the name has achieved an accepted position in popular and scientific nomenclature, and serves a useful function. We at least know that certain diseases can be prevented and cured by relieving a dietary fault of which the specific nature is unknown, although what we are pleased to call vitamins are lacking.

Editorial attention was called recently to oleomargarine as a nutritive and economic substitute for butter. In the question of adequate vitamin supply we are likewise concerned not alone with maintaining the necessary nutritive equilibrium of the body, but very practically with supplying the required vitamin fraction at a feasible cost. As with the problem of adequate fat supply, so here that large class of the population is affected whose dietary is modified by increasing food costs. While it is not likely that epidemic scurvy, beriberi or pellagra will follow war food conditions, it is most probable that forms of malnutrition will be in evidence which are important in themselves and which will predispose to other disease and to physical inefficiency.

Dietary rules for the prevention of vitamin deficiency have been well summarized and simplified by Vedder.[1] Bread should be made from whole wheat flour if it is a staple article of diet. Where rice is eaten to a considerable extent it should be the brown under-milled variety. At least once weekly, such legumes as fresh beans or peas should be served. Fresh fruits and vegetables should be eaten several times weekly, barley should be used in all soups, and white potatoes and fresh meat at least once weekly, and preferably once daily. Canned goods should be employed in minimal amounts. If corn meal is used as a staple, it should be the yellow water-ground whole meal.

It is important to remember further that vitamins are inactivated by high temperatures and by certain chemical processes. It was found by Voegtlin Sullivan[2] that coincident with a decreased use of vitamin-rich foods in certain endemic pellagrous areas, there had occurred an increased use of soda in place of yeast to raise bread, and also for addition to vegetables such as beans for instance, to soften them and hasten the process of cookery. It was demonstrated that such alkalinization served to inactivate the vitamins of the vegetables and wheat-bread. This is another dietary danger easily avoided.

With reference to costs, it is desired merely to call attention to the excess costs of cereals in cartons. Rolled oats and rolled wheat can be purchased in bulk at lower cost and have a food value greater than many of the cereal preparations in customary use, and both are appetizing.

A CLIPPED EDITORIAL.

"The fake medicine business represents profits—fat profits—for many concerns, directly and indirectly. It represents also deception and fraud, swindles, and deliberate, calculated obtaining of money under false pretenses, as the *Tribune* has shown. It exploits sickness and suffering for the sake of gain and leaves the victims in worse case physically and fianancially than when they began experiments with the 'cures.' There should be no

1 Jour. A. M. A., 1916, LXVII, 1494.
2 Pub. Health Rep., Apr. 14, 1916.

tenderness for those who make money in such devious, dangerous ways. Halfway measures should not be considered."—*New York Tribune.*

"Whenever the patent medicine quack is attacked we hear the old familiar cry of 'personal liberty' and persecution. The quack shrieks that there is nothing wrong in his business and that he is being persecuted by the 'Doctor's Trust.'

"When the newspapers of this country finally reach the high plane of keeping faith with their readers and placing editorial ethics above business office receipts, they will not permit a patent medicine advertisement to appear in their columns, and that will mean the death of the patent medicine business."—*The Labor World.*

"The quack doctors named in the *Tribune*, and a host of unnamed others, are a disgrace to the medical profession and a menace to the city. They prey upon a class of people that can least afford to be preyed on. It is from among the hard-working men in the lowest status of our society that they gather their victims. It is the wages that were earned not only in the sweat of the brow but in blood, in the ever-present danger of injury or death through the hazards of the trade, that flows into the coffers of these charlatans. . .

". . . But they do not content themselves merely with the victims which their lurid posters pick up from among the ignorant fellows in the street. They invade the homes of the miserably poor with advertisements and doctor books printed in all languages, and poison the atmosphere of these homes.

"The State should find a way of stopping the distribution of their filthy circulars. They are as obscure as they are vicious. And the public should see to it that the portion of the press which accepts the advertisements of these quacks ceases to outrage the eye and feeling of the reader."—*The Chicago Daily Tribune.*

Will our readers please send in clippings from all California newspapers along this line. They are worth recording.

THE VENEREAL SILENCE.

It is full time that the old superstitious fear of naming syphilis and gonorrhea in public and in private be abolished. How are they to be fought if they must always be unnameable? Why should a current Government publication even speak of "virulent blood poison," when it means syphilis? How many newspapers will use the correct names for these diseases, when they are unashamed at the bold portrayals of the quack advertisers, and patent medicine testimonials, and police court dregs which are spread on a different page? How many public speakers will call them by name when need arises? Why should it be shameful to know their peril and to study their prevention?

The splendid policy and work of the California State Board of Health in protecting the Army camps from venereal disease has been noted and cannot receive too high commendation. The splendid policy and work of the Army and Navy authorities in the same direction deserves the commendation and support of every American. We have, and surely hope to have in the future, a military force unique in history for its freedom from venereal disease. This objective will not be accomplished, however, by a continuance of the out-grown policy of silence on the subject of these diseases. In civil life let us emulate the worthy example here set before us. Let us call syphilis by its name. Let us go at the stupendous problem of popular education in a sane manner by foregoing this old silence.

EDITORIAL COMMENT.

Leather is decreasing and its price is advancing. This sentence has become trite in many applications. And here, as in many of the similar situations, there seems to be a way out. The Journal of the American Veterinary Medical Association for December, 1917, states that pig skins are largely wasted, in spite of the fact that they represent the only substitute on an adequate scale for cow hide. They are superior to cow hide in that they resist surface wear better. Their durability and elegance are attested by a small line of saddles and fancy leather goods now available. Tests have shown them a fully satisfactory material for shoes. There is reported a deficiency of some three million cow hides. The pig skins now wasted on bacon, where they are of neither ornamental nor nutritional value, would doubly replace this shortage. It might be added that the Chinese, who have so much to teach us Westerners, use pig skin for trunks, boxes, and other heavy wear, and it wears like a pig's nose. It is remarkable how many things we are learning to substitute, and to do without as a result of the war. To a great extent this is an economic and social blessing.

In Science for November 30, 1917, Dr. C. E. K. Mees draws an interesting comparison between the process of assimilation in the human economy, and the process of the increase of scientific knowledge in the social economy. There is the production of new knowledge by laboratory research, which corresponds to the preparation and supply of food materials. There is the publication of this knowledge in papers and scientific reports. Finally there is the digestion of this knowledge and its absorption into the general mass of knowledge by the agency of critical comparison. The moral might be added that it is never wise to color facts or force conclusions. The process of digestion of knowledge is essential for its assimilation into the general fund of knowledge, and this process cannot be hurried. The conservatism of the established order is always a good thing, as it aids digestion in this sense and prevents fevers and sudden perversions of social metabolism.

The Principles of Ethics of the American Medical Association states that it is "derogatory to professional character for physicians to accept rebates on prescriptions or surgical appliances." If this is true, then any doctor who receives a rebate from the maker of artificial limbs, trusses, belts, etc., is acting in an unethical and unprofessional manner.

It is interesting to note the new advertisers appearing in the Journal; also to note the new books, instruments and other medical requirements advertised by the older advertisers. Part of the educational value of the Journal lies in keeping familiar with the articles advertised. It is worth while whether you expect to buy or not. All advertisers in this Journal pass a rigid scrutiny and are reliable and ethical. It is to their interest to put their best foot forward and they do it. Therein lies a real chance for the busy doctor to keep in touch with commercial scientific progress. Do *you* do it?

Special Articles

PRESENT STATUS OF HEALTH INSURANCE IN CALIFORNIA.

By RENÉ BINE, M. D., San Francisco, Chairman of the Committee on Health Insurance of the State Society.

A very prominent gentleman, recently connected with our State government, told us not very long ago that in his opinion, Health Insurance of some sort was so sure to come as the result of public demand, that our office seekers would fall over themselves in their eagerness to indorse such measures, aye, even loudly bringing forth claims of priority in the discovery of the need for such legislation.

He furthermore told us that for a long time the bankers of this State had consistently opposed new banking laws, and would do nothing to help formulate them. To-day they openly admit that they would not go back to the old system if they could.

There is no doubt, and none of us can deny that lack of organization in the medical profession causes much waste. We often do not realize how great the waste really is. In our homes we probably all thought we were economical, until we began to "Hooverize." The railroads managed to make money and apparently do good work, until real efficiency was needed; then they had a great fall, and all the railroad presidents and all the country's bosses are trying to get them together again.

The Social Insurance Commission of the State of California has proposed an amendment to the constitution which, if passed, will enable the legislature to establish a real insurance system. The legislature does not meet in 1918. Nothing can be done therefore towards passing any Health Insurance bill until 1919, provided the amendment is carried in November 1918.

In the meantime, let us, the medical profession, try and work out our own reforms if possible and see to it that, come what may, we protect the community from legislation unless it be practical, sane and desirable.

Your committee published its first report in the June 1917 issue, and to this your attention is again called. We are now debating a number of points, which we are going to detail here, in the hope that those interested will take the time to study them, and the time and energy to write to us, expressing their views. We want help; we want constructive criticism. Remember, please, that we are apt in this, as in other matters, to sit back and feel that "we are satisfied with the present order of things and, well, if something must be done,—oh, well, let George do it."

In April your Committee on Social Insurance will report further on its work. It is going ahead upon the assumption that if the people of our State want and do vote for Health Insurance, the Medical Society of the State of California must help *frame* the final bill and practically *dictate* the actual medical features of the bill.

How does the medical profession of England, after five years' practical experience, regard the Health Insurance Act? "Favorably," finds the British Medical Association after a painstaking inquiry among all local branches and panel committees. And, the Association's Committee remarks, "the degree of unanimity so far disclosed is somewhat remarkable."

The report, which has appeared in the British Medical Journal, points out minor defects in administrative detail that may be easily corrected and suggests that the scheme, which is proving a distinct gain to the medical profession as well as to the public health, be still further expanded.

The points we are studying, and which we would submit to your earnest consideration, follow. We, of course, are assuming the possible passage of a Health Insurance bill. It might be well for County Societies to devote meetings to these topics. When we have gotten a little further in our work we hope to arrange for speakers to visit societies desiring them.

1. Basis of remuneration of physicians.
   (a) salary basis (full or part time men?)
   (b) Fee schedule as at present established for the industrial accident work.
   (c) Capitation.

Growth of *contract* medicine should be recognized—either (1) salary work, when contract made by corporation, or (2) very small capitation, as witness usual lodge salary of $2 per annum per insured, to treat members and families.

Some step in direction of medical and hospital service within the financial grasp of wage earners is bound to be taken. The question is, what step? Health Insurance, through the contributions of employers, as well as employees, and help from the State, offers a source of income larger than possible now for this sort of work.

Also, capitation system or salary system (as in vogue in England) offers possibility of practice of preventive medicine. This could not be had under fee system. Note testimony contained in the English reports in regard to the benefits of the capitation system from a medical standpoint.

Capitation system offers chance for free choice of doctors. Salary system does *not*.

2. Remuneration and Regulation of Specialists.
   (a) Should a different basis of remuneration be adopted for "specialist service?" Should higher standards of remuneration be adopted for specialist service?
   (b) If not, how could you obtain the services of good specialists?

(c) How will it be determined whether an M. D. is a specialist or not?
(d) Should you permit the specialist to be on call for Health Insurance work only part of his time, and require the general practitioner to be on call at any time?

3. Possibilities of Group Medicine Under Health Insurance Organization.
(a) Do you consider it practical to make the group instead of the individual the unit under Health Insurance, thereby requiring the association of general practitioners with the various specialists?
(b) If so, should the group of necessity be attached to a hospital open to Health Insurance members?
(c) Could the specialists in one group be attached to other groups as well?
(d) Would it be possible for the State Insurance Fund to pay a lump sum to the group, allowing the doctors to arrange for division, or should the method and amount of remuneration be determined by the State commission?

4. (a) Should the amount of work to be done under Health Insurance by any one doctor be limited?
(b) Should the number of persons on the panel of any one doctor be limited to a certain fixed number?
(c) Should the number be variable, in the discretion of the commission, or should it be variable merely as between rural and urban districts?
(d) Should the question of the maximum number of patients be left in each instance to a supervisory body or to the Insurance Commission?

5. (a) Should there be a medical advisor in the different districts of the State (assuming that there is to be free choice of physician), who has real disciplinary supervisory powers?
(b) Should this advisor be merely a referee, with power and duty of deciding insured person's eligibility to sickness benefits and having no powers or duty or assisting in diagnosis and treatment?
(c) Should this advisor have such powers as referee plus right and duty of acting as consultant when called in either by patient or physician, his opinion to be accepted or rejected, according to wish of practitioner in charge, as is now customary with consultants?

6. (a) Should any practitioner be permitted to take into a Health Insurance Hospital (i. e., hospital contracting to take Health Insurance patients), operate, etc., without any supervision from hospital head?
(b) Should any restriction be made as to performance of capital operation? If so, what?
(c) Would it be practical to plan two types of hospital: (1) a diagnosis center with its attendant staff of specialists to which all cases of unusual difficulty would be referred and in which the general practitioner must follow the study of patient's case; (2) a general hospital where the doctor can take his patient just as now and at the same time find at this hospital a staff of specialists to assist as consultants, if desired?
(d) Should the State build and equip diagnosis centers where all the specialties would be found (also laboratories, X-Ray facilities, etc.), at the disposal of the general practitioner?

THE VENEREAL SITUATION AMONG THE FORCES AT WAR.

By JOHN C. SPENCER, M. D., San Francisco.

It is the consensus of authoritative opinion that venereal diseases are responsible for more disabled and inefficient fighting men than all other diseases combined. This statement is readily confirmed by reference to Governmental reports from the military authorities of the principal warring nations.

As a basis of computation for an estimate of the ravages upon human life and health, no better testimony is available than that presented in the Lettsomian oration by Sir William Osler.[1] His figures are based on the English experience:

"In 1915, while nine soldiers died every hour, during the same period twelve babies died to the scandal of the country. . . . The gonococcus is the greatest known preventer of life. . . . A conservative estimate of the women sterile from a gonorrheal infection is 50%. From the same cause 30 to 40% of human beings are rendered congenitally blind. Add to these the chronic pelvic mischief and the unhappiness of sterile marriages . . . and the gonococcus is the king among germs. . . . In 1915 syphilis was the cause of 20,000 still-births; between 15,000 to 20,000 died from the same cause during the first year of their life. . . . Out of 562,000 deaths from all causes 10,000 were from syphilis of the nervous system, and 10,000 from syphilis of the vascular system. The grand total of deaths from this cause amounted to 60,000. . . . The last obtainable figures as to the percentage of venereal diseases in the British army showed syphilis 21,000; gonorrhea, 71,000; and chancroid, 6000."

In summing up, he declares that the campaign against venereal disease, to be successful, must prepare the people, first, by educational methods; second, by compulsory treatment.

For the French army the only available figures showing the relative prevalence are from Gaucher.[2] He states that "in the first six months of the war syphilis existed in the ratio of 1–6 of the others, and in the first sixteen months amounted to 33%. About 20% of all venereal disease was among the married men. . . . About 50% of all prostitutes were diseased. . . . During the following eight months, the incidence was increased still further by about 50%, creating the assumption

---

* Read before the Urological Section of the San Francisco County Medical Society, October 30, 1917.

1. Osler, Sir William: Brit. Med. Jour., May 26, 1917.
2. Gaucher and Brizard: Ann. de Mal. Venerienne, Vol. 11, No. 129, 1916.
(Ibid.) Jour. Amer. Med. Assoc., Feb. 3, 1917, p. 384.

that there must have been many cases unrecognized originally, thus proving the necessity of more thorough instruction among students and physicians in diagnosis." The Lancet[3] quotes Von Töply at some length as to the conditions in the German army as follows: ". . . But venereal disease remains a greater drain on the fighting forces than any other infectious disease, and the problems associated with it are still far from being solved. . . . In the war of 1870, 9% of the total morbidity of the Geman army was due to venereal disease. This was very low, as from 7-31% is the usual level in all wars. . . . Were an army to fight one battle every year, the casualties from dead and wounded would barely be as heavy as from venereal diseases. . . . The incidence of venereal disease is directly proportional to the duration of any war. . . . War brings in its wake a code of morals so utterly at variance with the accepted standard of peace, that men posing as models of probity at home, run amuck when constrained only by so-called military law." According to German sources of information it is particularly in hostile territory that the licentiousness of the soldiers is given freest rein.

It is practically impossible to get authentic figures as to the prevalence of venereal diseases in foreign countries up to as late as the present mid-year. The surgeon general of Canada courteously but frankly declines to supply any data during the present war.

America.—From the records of the United States Public Health Service, official figures for the fiscal year 1916-1917 give the incidence of venereal diseases as follows: For 1916, syphilis, 6.9%; gonorrhea, 9.8%; chancroid, 3.6%. For 1917, syphilis, 9.8%; gonorrhea, 11%; chancroid, 3.15%. From the United States Navy for 1916 the daily average percentage of those infected with syphilis was 26%; with gonorrhea, 28%; with chancroid, 1%. From the side of efficiency it is interesting to note that syphilis was responsible for a total of 67,000 sick days (i. e., days on which the individual was incapacitated for duty); gonorrhea for 70,949 days, and chancroid, for 27,221 days. These are striking figures on the interference with effective service charged to venereal diseases alone.

In the annual report of the Surgeon General of the United States Army, it is reported that "venereal diseases still continue to constitute in the army of the United States, as in those of other countries, a very serious factor against military efficiency; just as in civilian life these diseases occupy a similar position in their relation to the welfare of the community and state. . . . For 1915 a ratio of 4.78 to 1000 was constantly sick from venereal diseases." This is relatively a low percentage as compared to that existing before 1910, but observe again the figures regarding efficiency. A grand total of 162,577 days was the toll of non-service from enlisted men rendered ineffective from venereal diseases.

Back of all these figures lie the ever present sources of contamination and infection afforded by the civilian communities contiguous to the location of the troops. It is a patent fact that when soldiers are actively engaged in battle or otherwise in duties incidental to war, or in the case of sailors, at sea, the danger of infection is practically nil. When, however, the men have idle time on their hands, with few or no opportunities for wholesome diversion, the majority ask for and receive leave for a longer or shorter period. Those so inclined, restraints being removed, either get more or less under the influence of alcohol, and seek the company of prostitutes, or seek them directly without the alcoholic preliminaries. Among the Austro-German troops, the reserves, known as the Landsturm, composed of older and in great part married men stationed at some fixed point in captured enemy territory, accustomed as they have been to intra-marital sex-relations pro re nata, the ordinary social restraints being removed, indulge extra-maritally, and form a high percentage of those infected with venereal disease. Quoting Blaschko again: "The percentage of venereal disease in the German army is not only lower than that in any of the other armies, but lower than that in the corresponding civilian population, by reason of the severe discipline and lower wages prevailing in the army."

Contributing Causes.—Some of the chief contributing causes are faulty moral education, and squalid physical surroundings, involving overcrowding, especially in cities. With these go wage-conditions, depending partly on local economic conditions, but to a large extent upon national conditions involved in national policies regarding supply and demand of products of all kinds. These and other factors increasing the cost of living, tend to decrease educational opportunities for the poorer classes. The young are thrown out into the world to begin the struggle for existence before there is time to lay the foundation for their future moral character. With little or no moral education at home, the sex side of their natures tends to develop precociously through the example of their vicious environment. Girls are attracted by the glamor of better clothing and entertainment. Whatever slight inherent moral force they possess is usually blunted or destroyed by alcohol. With slight or absent parental oversight they follow the lines of least resistance and drift into clandestine or open prostitution. Blaschko states that among the civilian population of Germany venereal disease is very common among the working classes, although the majority do not consort with prostitutes, but with girls of their own class. The highest percentage is found among the higher classes. In the working class, continence is exceedingly rare and among the upper classes negligible.

One great primal cause is at the bottom of this form of social dereliction. It is inherent moral force which makes and keeps the individual continent. Man from the highest to the lowest orders, demands chastity of woman. Unfortunately for the human race he does not always demand it for himself.

Exner[4] has made a most illuminating study of

3. Lancet, 1916, Vol. 2, p. 567.

4. Exner, M. J.: Social Hygiene, Vol. 3, No. 2.

the situation as regards venereal diseases affecting our own troops recently stationed on the Mexican border and in Mexico. He spent seven weeks studying the conditions existing in seven different camps. He states that "a factor which greatly enhances the moral strain upon the soldier is the process of being leveled down to the lower element. . . . The terrific down-pull of the military camp, as of all similar male group-life canot easily be exaggerated. . . . Loneliness contributes to the cause of immorality in the soldier. . . . While many officers have not done what they should have done and had the authority to do to minimize the evil, the blame for the bad conditions must rest much more largely on the civil authorities of the communities in or near which troops are located. . . The communities, so far as I know, without exception not only failed to co-operate adequately with the military authorities in suppressing prostitution or making it inaccessible to the soldiers, but many of them vigorously opposed such measures on the ground that it would hurt business, or for political reasons. . . . At one camp with 50,000 men near a large city prostitution was carried on extensively without restriction beyond the usual 'regulation!' The old notorious segregated district was in full operation and in another part of the city an extensive new 'crib-system' had been built. In but few cities in the country could anything so bad have been found. Conversation with some of these women revealed the fact that on an average 'good' night they served about fifty men. Some women served more. . . . One house inhabited by Italian women was said to cater to the officers. . . . The chief medical officer of one of the divisions reported that a certain prostitute consulted one of his civilian colleagues and was found to be in the active stage of syphilis. She stated that during the preceding forty-eight hours she had served 120 men. . . . In Mexico proper at each of the two points where the main bodies of the troops were located, a prostitution-district was maintained within the lines of the camp and supervised by military officers. . . . In these instances prostitution was deliberately provided for the men by the officers upon the assumption that it was necessary for the contentment or well-being of the men. . . . . One cavalry officer of high rank attempted to justify the situation thus: 'If prostitution were not provided, these men would disobey orders, go to the Mexican village and get mixed up with the women and thereby possibly bring on war.' He failed to see that to guard against a possible breach of discipline on the part of the lowest element, which he admitted, constituted but a small proportion of the troops, he would deliberately stimulate a process of leveling down the whole body of the troops to this low element and increase the evil many fold. . . . In this group of seven camps one stands out pre-eminently. It was situated near two small towns. Here, prostitution and saloons sought to establish themselves. The commanding officer suppressed both with an iron hand and never relaxed his vigilance. As soon as sources of prostitution or sale of liquor could be located, although not technically possessed of the authority, he assumed it, and got rid of them on the ground of military efficiency. According to the arguments of many of these officers, this commanding officer's acts should have been followed by extreme discontent, a clamoring for prostitutional facilities, revolt and mutiny. The facts were, that no more contented, more orderly, better disciplined, better trained, more efficient or more loyal body of troops could be found anywhere on the border. . . . These men were proud of the moral reputation of their regiment and this in itself was a great restraining influence. This . . . is sufficient to utterly refute the contention of a large body of army officers that sexual indulgence is necessary for the contentment and well-being of the men."

Prophylaxis.—The U. S. Army, Navy and Public Health Service enforce with great rigor a regulation that every enlisted man who has had sexual relations with a strange woman must report the fact to his medical officer within six hours and receive prophylactic treatment. If a man develops a venereal disease and the records show that he has failed to report for prophylactic treatment, he is placed under arrest, his pay is stopped and he is deprived of numerous other privileges. To quote Exner again: "By far the largest proportion of venereal disease is contracted in the mobilization camps before prophylaxis is applied. . . . With rare exceptions army officers, both high and low, are unfamiliar with modern studies of prostitution such as have been made by the Bureau of Social Hygiene, and with modern methods of dealing with it."

Germany.—In 1915 Von Hindenburg issued an order threatening imprisonment of from two to twelve months upon any woman who cohabited with a soldier knowing herself to be infected with a venereal disease. By way of collateral prophylaxis in Brussels, the German government has inaugurated special institutions for the entertainment of 4000 railroad employes there. The soldiers are not allowed to be billetted in private families. On the march they are not quartered in or near densely populated districts. When towns are unavoidable, leave is greatly restricted. An educational campaign is being conducted with great thoroughness. But a whole sheaf of printed matter has not proven as effective, as a demonstration in corpore vili of a severe case of venereal disease. Quacks have been stamped out, and their advertisements suppressed. Penalties for concealment have been found to be most conducive to early diagnosis and treatment.

Blaschko regards the benefits from inspection of prostitutes as illusory even when made daily. . . . He favors closing all brothels during the period of the war as tending to remove a stimulus to immorality. Neisser and Blaschko agree that moral regeneration of a nation is not practical politics and that every effort shall be concentrated on making extra-marital relations as harmless as possible. The decline of all forms of venereal disease in the German army and navy is attributed to a strict phophylactic ritual with severe penalties for failure to observe the same. Under the stress

of the war the German military authorities have temporarily placed the esthetic side of the treatment of venereal disease in the background and hold, that their suppression at any cost must be the first consideration. In this connection it may be remarked that Neisser in 1915, in addressing Die Deutsche Gesellschaft Zur Bekaempfung Der Geschlechtskrankheiten, stated that were society to dissociate itself from the teachings of individual prophylaxis, its bankruptcy would be inevitable.

Whereas the law still exists in Germany forbidding the use of the means of contraception, the military authorities not only countenance but recommend their use as a means of keeping down the percentage of venereal disease. The decline in birth-rate from their use is found to be more than offset by the reduction of the death-rate from venereal disease. The decline in birth-rate from gonorrhea in Germany over a given period is estimated to be 200,000, and 70,000 from syphilis. Owing to the scarcity of rubber, condoms are not available, therefore a 33% calomel ointment and a 10% protargol jelly are used. Owing to the great ignorance as to diagnosis and proper methods of treatment on the part of civilian physicians, the German military authorities have begun active propaganda directed toward the education of the medical profession.

Post-Bellum Prophylaxis.—Neisser, Kraepelin, et. al., recommend that, in order to avoid the danger from possibly venereally diseased men returning to civilian life, every staff and non-commissioned officer and man, before discharge, be subjected to a Wassermann test. Blaschko recommends: (1) The examination only of those definitely known to have been diseased; (2) that every case of venereal disease among soldiers shall be retained under military control until cured; (3) the transfer of all other cases of venereal infection to the national insurance societies for further observation and treatment; (4) that drastic reforms for the control of prostitution be instituted. Tullidge[5] says that the French, German and Austro-Hungarian troops on the home-zone and at the front are acquiring venereal diseases at a rate far exceeding that in any previous war, especially in Austro-Hungary. By way of prophylaxis he states that educational methods are very essential but that some effectual preventive should be at the disposal of every individual. This plan may be offensive on esthetic grounds, but takes precedence over other methods of prophylaxis in maintaining the men at the highest level of fighting efficiency.

Malingering.—A curious sidelight in this connection is the deliberate infection of themselves from the secretions of comrades suffering from a venereal disease, by individuals anxious to escape further military duty.

Treatment.—The methods of treatment employed do not differ essentially from those used in this country. It is interesting to note that one German military officer has discovered that the use of the X-ray filtered through a 0.5 mm. aluminum screen will cause chancroidal buboes to subside and disappear. In a questionnaire sent out by Gaucher to all military commands regarding the relative efficiency of the various arsenical preparations, Neosalvarsan, Novarsenobenzol, Salvarsan with Arsenobenzol, Galyl and Luargol, he gathered the following data: All showed remarkable safety in skilled hands. Neosalvarsan gave very good results; Novarsenobenzol was preferred to Neosalvarsan and sometimes acted better; salvarsan with Arsenobenzol was found to be very active, and was used only when Novarsenobenzol was not obtainable; Galyl was very active but variable in quality; Luargol was extremely active, being sometimes followed by phlebitis because of its high sodium content. Out of 95,000 injections no fatalities are reported.

English Army.—May[6] presents a comprehensive syllabus approved by the War Secretary of which the chief points are early diagnosis and efficient treatment; that prevention of disease may be guaranteed only through avoidance of possible infection; he denounces the idea that continence is ever harmful, or that incontinence is essential to manhood; he lays stress on the contributory effects of alcohol in diminishing self-control, and the importance of each man keeping fit for army efficiency; that instruction in artificial prophylaxis implies tacit encouragement of incontinence; lectures should be given by women social workers to women; opportunities for social recreation should be provided; the use of alcohol be restricted; loose women should be controlled to prevent migration from camp to camp.

Report of British Royal Commission.[7]—As an essential feature in the campaign against venereal diseases bearing directly on their possible spread among the civilian population, and eo ipso among the troops, the British Government in 1913 appointed a commission to investigate the entire subject.[7] This report was submitted in 1916. It states, that registration and medical examination of prostitutes is inefficient as a sanitary measure; that compulsory notification should not be enforced for the present, until the public is more familiar with the plan; that there should be inculcation of the idea of continence; that there should be a widespread educational campaign; that syphilis is best combated by energetic treatment, every facility being afforded for early diagnosis and continuous treatment; that free treatment shall be afforded to every one applying—the cost of this is to be divided, the general government paying 75% and the local government 25%; that there shall be compulsory treatment for all delinquents; that great harm is done by attempts at treatment on the part of incompetent or unqualified physicians, quacks, ignorant practitioners of special sects and by counter prescribing; that all quack advertisements should be suppressed.

West Australia and Tasmania.—West Australia has adopted a drastic law requiring compulsory notification and treatment, the patient's privacy being protected. Report of a given infection must

5. Tullidge: Military Surgeon, 1916, Vol. 39, pp. 49-53.

6. May: Practitioner, 1916, p. 482.

7. Jour. Amer. Med. Assoc., Feb. 3, 1917, p. 375.

be made within three days of its discovery and the patient remain under treatment until cured. Failure to obey this law is punishable by heavy fine and imprisonment. All court proceedings are absolutely secret. The two essentials upon which greatest stress is laid are: (1) Recognition of the importance of universal prompt treatment as the most efficient measure of control; (2) The enforcement of treatment. Tasmania has enacted similar laws, with the addition that persons under sentence are afforded treatment, and that hospitals refusing treatment or care of venereal cases shall be deprived of part or all of their government subsidies.

French Army.—Carle,[8] giving a summary of prophylactic measures in the French Army, divides them into individual, general, medical, and administrative. Under the first is the use of condoms, injections and ointments; second, monthly or bimonthly inspection, and inspection of those about to leave on furlough, and those just returned from leave; third, prompt and vigorous treatment of those infected. A government order of 1916 requires hospitalization of syphilitic soldiers during the active stage, with absolute internment; fourth, compulsory notification of infection and location of the infecting woman; punishment for false statements as to the status of the disease, and regulation of establishments frequented by prostitutes.

U. S. Army.—Col. Keefer,[9] writing on "The Venereal Peril to Our Army," says: "Venereal infections . . . constitute the most important health problem with which we have to deal." Prof. Kellogg of Stanford University says: "Venereal diseases are a scourge especially fostered by militarism." The Surgeon-General's office has already worked out a plan for co-ordinating the activities available for the control of venereal diseases, having as an advisory committee Drs. Wm. A. Pusey, Francis Hagner, Grover S. Wende, S. Pollitzer and H. H. Morton. The importance of the problem has been thoroughly appreciated and there need be no anxiety in this regard as it relates to our army. The program necessitates the cooperation of the civilian authorities and especially civilian physicians. Every case of venereal disease occurring in the army will be found to depend upon a similar case in the civilian population. Herein lies the opportunity of the civilian physician to "do his bit" effectively. The important points are: That the civilian physician should satisfy himself, that he is thoroughly capable of making an early diagnosis of these cases according to modern diagnostic methods, and stand ready to co-operate with federal and state authorities in efforts to control this scourge. County societies in counties where cantonments exist, should be especially alive to their responsibilities and opportunities. A complete syllabus (ibid.) has been issued by the Surgeon-General's office, of measures for combatting these diseases.

The California State Board of Health in August, 1917, established a Military Welfare Bureau for the care and prevention of venereal diseases in and near military camps in California, for which Governor Stephens has appropriated $60,000.

Lyster[10] shows an interesting table of the incidence of venereal diseases in the U. S. Army covering a period from 1888 to 1915. From 1888 to 1898 our army was still confined to the American continent. There was no regular inspection for venereal diseases as is now done fortnightly. Ready and exact diagnosis was unavailable. There was no controlled propaganda to reduce venereal diseases. Under these conditions the average rate of admissions was 78 to the 1000. The Spanish war with its new conditions, with our troops in foreign countries, the rate of admission almost doubled. From 1898 to 1908 a systematic campaign was gradually developed, with a marked falling off in the number of admissions. From 1909 to 1911 the principles of preventive medicine began to be applied, the Wassermann test and the vaccine therapy of gonorrhea. In 1912 the fortnightly inspection for venereal diseases was ordered. From this time on the rate of admissions fell off nearly 40 points in two years, due to *inspection* and *individual prophylaxis* supplemented by the order concerning the stoppage of pay, etc. He regards the education of the new medical officers as the *first* condition to success; the education of the line-officers as the *second condition;* the education of the men as to individual prophylaxis after exposure, the *third* condition of success. The efficiency of the army depends on the health of the men. The greatest enemy to its health is venereal disease.

Senator Weeks[11] introduced a bill in September, 1917, providing for fine and imprisonment of any one keeping a house of prostitution to which any one known to be a member of the military or naval forces is admitted, and also prohibiting, by fine or imprisonment, any one convicted of disorderly conduct or any sexual offense, from loitering or soliciting around military camps.

In February, 1915, the Secretary of the Navy issued a circular letter to all commanding officers of the Navy, calling their attention "to the subject of the prevalence of venereal diseases in the Navy," and striving especially to arouse renewed interest and activity in educational prophylaxis. Nearly every medical report that comes in, states in substance that venereal disease continues to give a far greater damage rate than any other factor. In the preceding statistical year it caused 141,378 sick days. For the same period Argyrol to the cost of $10,800 was used, and Protargol to the cost of $8,929. A single invoice of Salvarsan cost $17,000. The total expense for these purposes would probably show that the larger part of the appropriation for the department had been so used. It was his aim to endeavor to arouse a deeper interest among officers and men. In this educational campaign against the social evil, feeling that in this manner we have the only hopeful solution of the problem compatible with morality and the civilian and military laws. The Secretary is to be most

8. Carle: Ann. de Mal. Vener., 1916, Vol. 7, p. 536.
9. Jour. Amer. Med. Assoc., Vol. 69, Nos. 8 and 9.
10. Jour. Amer. Med. Assoc., Vol. 69, No. 16, p. 1257.
11. Jour. Amer. Med. Assoc., Vol. 69, No. 15, p. 1271.
12. Navy Dep't, Washington, D. C., ref. to No. 27142-10.

highly commended for the moral courage shown in his efforts to handle this problem on the highest moral grounds and laying the greatest stress upon this aspect of the situation.

Conclusions.

1. The military authorities of the world are agreed as to the devastating effects of venereal disease upon the enlisted men of the army and navy.

2. Likewise they are agreed that fighting efficiency is the one requisite demanded of the troops.

3. The overwhelming majority is agreed that prompt diagnosis and early and persistent treatment are the most vitally essential factors in reducing the amount of venereal disease and eo ipso keeping the greatest number of men efficient for fighting.

4. All authorities are agreed on the fallaciousness of any system of segregation, regulation and inspection of prostitutes, under existing conditions, excepting those ruling in West Australia and Tasmania. Unless these obsolete and inefficient methods are capable of being carried out under a strict lock and key quarantine, their futility is absolute. Even under a fairly frequent system of inspection, there can be no escape from the great probability of an infection between inspections. The most fallible part of this archaic system is that of confining the inspection to one sex.

5. The opinion is also practically unanimous, that until the whole civilized world is united on some method of prophylaxis more effective than the present moral and educational methods, in view of the proneness of the men in service, unless rigidly controlled by the military authorities to indulge in impure sexual relations, some form of individual prophylaxis must be provided for them. Its use must be made compulsory, and the failure to use it penalized.

In view of the tacit campaign of silence in the daily press, it is a refreshing sign that the daily "Evening Post" of New York City has boldly established the precedent of setting aside a certain space in its columns weekly, for a frank treatment of the subject of social hygiene. Per contra, a recent striking address delivered by Secretary Daniels before the Clinical Congress of the Surgeons of North America, was reported in but one of the local dailies.

What has been said in the body of this paper, is not to be interpreted as minimizing in the slightest degree the high value of educational and moral prophylaxis in our efforts to combat the ravages of venereal disease. The day has passed when their menace may be ignored or made light of. If the world aims to attain its highest efficiency, not in war alone, but in every phase of human activities, a widespread and concerted educational and moral campaign must be launched, supported by the most rational methods of prophylaxis, if the mental, moral and physical vigor of the nations are to be preserved, and posterity have the assurance of the heritage of a body uncontaminated by these preventable diseases.

Original Articles

APPENDICITIS IN CHILDHOOD—STUDY OF ONE HUNDRED CASES.

By LANGLEY PORTER, M. D., San Francisco.

Appendicitis is a condition far from rare in childhood, but common as it is, its timely recognition is one of the most difficult tasks presented to the medical man for solution. The classical signs which in adult patients render the diagnosis relatively easy, fail or are obscured when the attack occurs in early life. Fever, vomiting, constipation and abdominal pain are all frequent events during the child's first years, events which may be indices of either trivial or tragical pathological disturbances. Leucocytosis also, may mean much or little at this period as white cell counts are increased very materially under very slight provocation and fluctuations in the counts are positive and frequent. The difficulty in eliciting dependable replies from children minimizes the value of subjective symptoms, the very group of symptoms which is most weighty in diagnostic consideration when we are dealing with adult patients. Again, children are readily frightened and cry easily and persistently while under examination, thus sometimes masking slight degrees of abdominal muscle rigidity and at others raising a doubt about the state of affairs in the abdomen, underlying muscles being made rigid by breath holding or struggling. The idea so prevalent among parents that pain in the belly is the normal lot of children also rises up to plague the medical man; many a little one is brought to the physician with a ruptured appendix because an obvious abdominal pain has been ignored.

The frequency of appendicitis in early childhood is variously reported by different authors. Men who have had large series of cases to operate on report different experiences in this regard, probably due to the source of material. The highest figures are those of Klopton of St. Louis, who, reporting on appendicitis in childhood, found that 9% occurred in children less than five years of age, 54% between five and ten years and 37% between ten and fifteen years. This stands in marked contrast to the figures of our one hundred cases, which are:

9 in	2nd year	
13 in	3rd year	
3 in	4th year	25 cases in 1st to 5th year, or 25%
7 in	5th year	
2 in	6th year	
7 in	7th year	
6 in	8th year	39 cases in 5th to 10th year, or 39%
10 in	9th year	
14 in	10th year	
		36 cases in 10th to 15th year, or 36%

Deaver in five hundred cases found 8% occurring in the first five years, while Churchman and McCosh in their series had very low figures for children less than five years of age, the latter 1 7/10% and the former less than 1%. In Ritterhaus' statistics of ninety-eight cases, three occurred within the first five years, twenty-seven cases between five and ten years, and sixty-eight between ten and fifteen years. All these statistics

emphasize the fact that there is a heavier incidence after the tenth year than before.

In our series it is rather odd and interesting to note the large proportion of children who were in their third year. This bears out a lay idea prevalent in San Francisco that the third year is one in which appendicitis is very frequent; why it should be so, we cannot explain.

As the older children present a clinical picture of appendicitis in no way different from that which occurs in adult life, it is of little importance for the purpose of this paper to study in detail those cases that occurred in adolescence or later childhood.

In our series the sex incidence was about equal, forty-eight males and fifty-two females, which is the general experience.

Pain referred to the right lower quadrant of the abdomen was present in almost every instance and was absent but twice in our series. These exceptions will be discussed in greater detail later. General abdominal pain was present in fifty-seven instances (57%); sometimes this pain preceded and sometimes came after the pain referred to the right side. Pain in other places in the abdomen occurred in nineteen cases; these pains had three favorite sites:

First, the epigastrium. When this occurred it was the first sign of trouble and it was always mistaken for the ordinary stomach ache of little children.

Next the bladder region: pain and tenderness here is recorded in eight (8%) of the cases. Third, the right leg, where pain is also recorded eight times, it was accompanied by characteristic tenderness on movement of the limb. Pain in the left lower quadrant of the abdomen, localized there without pain or tenderness elsewhere, occurred four times, once with pain in the left leg. These peculiarities will also be discussed more fully.

Vomiting was absent in seventeen cases (17%).

Diarrhoea, which has been mentioned by many writers as a complication and to which Gray and Mitchell attribute grave prognostic significance, occurred but once in our series; the fact that there were only four fatal cases in this series may be evidence supporting their contention.

Chills were manifest in fifteen cases (15%).

The temperature ranged from normal to 104°, the pulse from eighty to one hundred and sixty; the highest recorded respirations were seventy and the lowest twenty-two. In eighteen cases the respiratory rate did not exceed thirty and in only three did it exceed forty and only once reached the very high figure of seventy. This shows the importance of considering the respiratory rate in differential diagnosis from those cases of diaphragmatic pleurisy which are often so misleading.

Blood counts were of very little value in helping arrive at a diagnosis. In fourteen instances the white count was greater than 25,000; fifteen times it was 15,000 or less; the lowest count was 8,000 which occurred three times and the remainder of the forty-two counts, recorded in the one hundred histories, were between 15,000 and 25,000. On the whole, it is safe to say that an increased white count is a valuable confirmatory evidence, but that an absence of increase in the white cells does not exclude an acute appendicitis, nor an acute exacerbation of a chronic inflammation of the appendix. The same may be said of a relative increase of the polymorphonuclear cells. The counts of these ranged in our cases from 90% down to 45%.

The number of cases in which the appendix was ruptured before the child was operated on, due in some instances to neglect on the part of parents and in some instances to an error in diagnosis and in others to a temporizing treatment, is striking. There were thirty-seven instances in which this accident had occurred and in more than two-thirds of these a general peritonitis had set in; in the remainder these patients had been fortunate and had developed a localized abscess. Of the twenty-five patients, aged five years or less, only four (16%) escaped rupture.

Recently a great deal of stress has been laid upon a relation of tonsillitis and sore throats to appendicitis. With this point in view, we have inquired carefully into the previous history of these patients. We were able to elicit a history in sixty cases. Of these, recurrent tonsillitis had occurred in fifteen instances. One case which was striking in the extreme in the same sequence, has been previously reported. The child was operated upon on a Monday for chronic enlargement and infection of tonsils and two days later developed a characteristic attack of abdominal pain with vomiting and tenderness. Pain was extreme but the cause was unrecognized. Two days later when he was seen in consultation it was obvious that he had general peritonitis and on operation, his appendix was gangrenous and had perforated. Free drainage was followed by uninterrupted recovery. It is striking that in all the cases in this series which had perforated and in which there was a peritonitis, recovery followed when free drainage was made at a sufficiently early date; in most of these the appendix was also removed.

Another striking point about the peritonitis following perforation is that immediately after the perforation the child seems very much better, so much that in two instances in which I had been summoned, the summons was withdrawn because of the child's improvement. This improvement, of course is soon followed by an exaggeration of the symptoms, especially of the vomiting and constipation or diarrhoea. All symptoms diminish, however, after perforation. The pulse aids us to reach a clear decision, because almost invariably we encounter an increased rate of heart beat, and in almost every case in which we have had signs of appendicitis that have disappeared and have been followed by mounting pulse rate, it was proved that perforation had occurred. However, one must remember that the pulse rate is variable and increases under excitement, fever and other stimuli in early childhood.

Much stress has also been laid upon urinary symptoms, pain, distress, burning, frequency, as diagnostic aids in cases of appendicitis. In this series, the symptom was detailed in the history eleven

times. The histories were incomplete in this detail in thirty-eight instances.

As has been stated, abdominal pain was present in all of our cases, and in most of them at one time or another it was present in the right lower quadrant of the abdomen although it was frequently referred to the region about the umbilicus, and rarely to other areas. The histories show that more frequently younger rather than older children were attacked with pain in other regions than the right lower quadrant. Two instances occurred in which there was no pain on the right side at any time in the history of the case, but pain, tenderness and muscular rigidity were well marked in the left lower quadrant. In each of these cases there was a very long appendix which reached across the abdomen and was adherent by its tip to the left of the median line. In both instances rupture occurred at the tip and was followed by an attempt at localization of the abscess which was not complete. Both children died from generalized peritonitis and, curiously, each was in its third year. In both of these cases the diagnosis was deferred in spite of vomiting, pain, constipation, muscular rigidity and tenderness, because the right side was absolutely free from any of the classical signs of an appendicitis.

In another case greatest distress was caused when the child had a bowel movement or passed flatus. A rectal examination revealed a localized pelvic abscess with fluctuation in the retrocystic pouch and laparotomy proved that the child had a long appendix which extended over the brim very low into the pelvis. The viscus had perforated at its apex and formed a local abscess that sooner or later would have spontaneously opened into the gut. The consideration of such a case emphasizes the value of rectal examination whenever a doubtful abdominal condition is being dealt with; it goes without saying that the examination should never be attempted except under an anaesthetic. The palpating finger in the rectum will discover any such abscess as occurred in the case just referred to or will differentiate puzzling cases of tubercular peritonitis from suppurative appendicitis.

In one of the three-year-old cases the pain of a first attack was referred entirely to the upper right quadrant of the abdomen; the child always pointed to the same place, a spot about half way between the umbilicus and the cartilage of the ninth rib. At this first attack there was absolutely no tenderness, no muscle rigidity nor guarding and no vomiting. On the second attack some weeks later the mystery of this was cleared when operation revealed the fact that the child had a high placed caecum with the appendix lying just within the region where he had complained of his pain. It was, however, obvious that there had been no actual inflammation of the appendix during the first attack, but that the pain was due to an appendicular colic resulting from efforts to expel a well developed concretion which was discovered within the appendix. Pain at this site is of interest because it is about here that the pain and tenderness in a gall-bladder case develops, but as gall-bladder involvement is practically an unknown pathological condition in children, it is interesting to know that the appendix may give rise to such symptoms.

One little girl of five years, who had a chronic appendicitis with recurrent attacks of vomiting, complained of no pain or tenderness except when attempting to walk up or down a hill or stairway. She then was bitter in her complaint and often found it impossible to go on, so much so, that many times her father was forced to carry her; she also showed the characteristic signs of psoas involvement in that she found it painful to flex the thigh on the trunk or to allow the flexed thigh and extended leg to fall slowly toward the bed. Some confusion might arise in instances like this where the chief distress was referred to the psoas muscle and an early Pott's disease might be suspected, especially as abdominal pain is one of the cardinal symptoms of this disorder. However, the absence of the other characteristics of appendicitis and the presence of the rigidity and the tenderness of the spine should make a continued confusion impossible.

When the pain is relieved by pressure over the abdomen, then we are told by Griffith that we may exclude a true acute inflammatory process in the appendix or for that matter, in any of the abdominal viscera and the probability is that we are dealing with a case of diaphragmatic pleurisy, a condition which has misled many good observers. In order to emphasize that these may be sources of confusion, it may be well to give brief histories of such cases:

F. S., age three years, was sent to the Lane Hospital with a diagnosis of appendicitis; the diagnosis was based upon the finding of intense abdominal pain, sudden in onset, vomiting and constipation. Within twenty-four hours the abdominal signs gave way and the signs of pneumonia of the left base appeared. This patient's symptoms were much less puzzling than those of M. Mc. age five years, taken ill suddenly, her only complaint being of "pain in the stomach." Her fever was 104°, pulse 140 and respirations from forty to fifty, a range often to be found in the beginning of an acute attack of appendicitis. When the child's abdomen was palpated, it is true that the upper right quadrant seemed to be more tender than the lower, but such a state of affairs may often occur in an appendicitis patient with a high placed cecum. Such developmental condition is not infrequent in patients of this child's age, as indeed is illustrated by one of the histories to be detailed later on. The most painstaking examination of the chest failed to reveal any physical sign pointing to lung involvement; dullness, rales, friction rubs, tubular breath sounds, all alike were absent. Three days after the onset of the pain, friction could be heard and soon the signs of a full blown pneumonia of the right lower lobe were apparent and at the same time the abdominal signs disappeared. In both these instances the diaphragmatic pleurisy was followed by a purulent effusion into the chest.

The surgical conditions which may be confused with appendicitis are rare in childhood. Such a case occurred in Patient A., a girl of twelve

years who was taken suddenly ill with vomiting, abdominal pain and high leukocyte count. There was muscular guarding and tenderness of the abdomen below the umbilicus, tenderness on palpation in the same area, and the temperature reached 101°. On rectal examination there was great tenderness and a large mass was found which filled the pelvis. Laparotomy showed that the child was suffering from necrotic dermoid cyst of the left ovary. The pedicle of the tumor had become twisted and on examination was found necrotic. The child made uninterrupted recovery after the operation.

Localized adenitis of the septic as well as of the tubercular type is occasionally puzzling. The frequency of abdominal tuberculosis makes the following record of interest, as the condition was mistaken by several excellent observers for acute appendicitis.

M. B., a girl five years of age, was admitted to the Lane Hospital because for one week she had been suffering from attacks of abdominal pain localized to the right lower quadrant; the pain became worse after she took food. The child was constipated and had an anorexia; there had been neither vomiting nor nausea. On examination there was tenderness and rigidity over the right iliac fossa and on deep palpation, an ill-defined mass could be made out. Under an anesthetic the same mass could be felt with ease. When the abdomen was opened at operation, this mass proved to be adherent ileum entangled with lymph glands in an acute tubercular inflammation; the appendix was perfectly normal. It is of interest to note that the white cell count offered no aid to the diagnostician; leucocytes were 20,000 with 88% polymorphonuclear cells. The temperature which ranged from 101° to 104° lent no aid in clearing the diagnosis. The child died a few weeks later from a generalization of the tuberculosis.

Even more illustrative is the case of:

D. V., a male infant, one year old. The parents stated him to have been in perfect health on August 18, 1916. On the following day a bowel movement was passed with some gas. Later on that afternoon the child was taken suddenly ill with abdominal pain and shock. He lay listless and pale and roused only to ask for water which he immediately vomited. There was incessant vomiting during the next twenty-four hours with paroxysms of pain. On physical examination, the child lay on its back with legs drawn up, the abdomen distended; there was general rigidity and guarding of muscles. Tenderness on palpation was general over the abdomen. In this case there was an increase in white blood cells and the sudden onset with pain and vomiting might have led one to the diagnosis of appendicitis, although the physical signs were definitely those of a tubercular peritonitis.

The consideration of these cases has led to digression, so to return to a consideration of pain, the predominant and revealing symptom of appendicitis, it may be well to note a few of the other causes of abdominal pain in children.

The commonest, of course, is improper food. Fortunately it is unusual to find children suffering frequently from this symptom after their second year; although when older children do suffer from it, the confusion is rendered greater by the fact that many of them also vomit. Most of these belly aches of childhood follow improper diet, especially that coarse diet which is now so much the fad, Roman meal, graham crackers, bran biscuits and fifty-seven other enormities which are fed to children with the mistaken idea that they will remedy constipation. The pain which follows the ingestion of such food is, however, very characteristic; almost always it is referred to the region of the abdomen just above the umbilicus. It is very rarely accompanied by any tenseness or tenderness of the muscles. It is not uncommon for the children, victims of such pain, to have urgent calls to stool immediately upon beginning a meal, furthermore a microscopic examination of their evacuations shows an abundance of undigested starch and a great amount of coarse waste. Nevertheless the differential diagnosis of this condition from a chronic appendicitis may be most difficult, for, as already recited, the pain of appendicitis may be referred to the pit of the stomach or high up on the right side or to the left side. Child patients with painful indigestion nearly all have a tender colon, but so may those with chronic appendicitis and it is not at all uncommon for pressure on the descending colon to cause pain at the caecum both in chronic indigestion and in chronic appendicitis.

Vomiting is next to pain the most frequent and characteristic symptom of acute appendicitis in little children. There is a well recognized clinical picture in early childhood which has come to be called "recurrent vomiting." This may be of any degree of severity, it varies in all degrees from simple easily remedied emesis to that severe form accompanied by extreme acidosis and degeneration of the liver, first described by Parks of Birmingham, and found by him to be almost always fatal. It is now a number of years since Comby pointed out that many different clinical conditions were being grouped under the name "recurrent vomiting" and he called attention to the fact that a large proportion of these recurrent vomiters were suffering from chronic appendicitis. Our more recent knowledge has shown us that the so-called acidosis of children is an accompaniment of many different infections and intoxications and the diagnosis of "acidosis" or "recurrent vomiting" is not to be accepted as final, because the presence of acid bodies and the vomiting are only symptoms. In recent years I have seen many children who have suffered with periodical attacks of vomiting and in most cases I could find an underlying cause. Five of them suffered from chronic appendicitis and are included in this series; in each of the five the recurrent vomiting cleared up and did not return after the removal of the appendix.

In passing, I would say that more than half of my cases of recurrent vomiting were cured after removal of diseased tonsils and adenoids. I believe with Sedgwick and Eustace Smith, that infected tonsils and adenoids are a very common cause of the infection or intoxication which leads to periodical vomiting. Duodenitis, most often the result of coarse food or an excessively high fat intake, is the

next commonest cause and is much more apt to lead to diagnostic confusion with appendicitis than is anything else, because of the fact that duodenitis is accompanied by attacks of abdominal pain such as we have already discussed, and because both the duodenitis and the colic may be caused by the indigestible residues of coarse food.

Rigidity of the abdominal muscles may be the most helpful of signs in arriving at a diagnosis of appendicitis, but in very young children who struggle and cry, the most expert examiner may be unable to draw a useful conclusion. In such cases it is well to remember the axiom Dr. Wilson Shiels has laid down that the unctuous palm is the greatest aid in diagnosis of abdominal condition. The examiner who attempts to get information by digging his rigid fingers into the child's abdomen will fail absolutely, while he who lays the whole hand pliant and relaxed upon the belly and bides his time, will soon find that he can learn a great deal about the underlying structures. In duodenitis or in Pott's disease or in any of the conditions before enumerated which are apt to be confusing because of abdominal pain, a proper palpation will almost invariably decide the diagnosis. Palpation sometimes is of great value when the inflamed appendix is in the retrocecal position, in which case spasm and muscle rigidity will be found not only in the right iliac fossa, but behind in the right lumbar region, as well. Percussion is rarely of much aid except when a localized abscess has formed; then a dull area over the abscess region is demonstrable, otherwise percussion gives little information.

In concluding, I will mention a few of our most interesting cases. The youngest in our series, when operated, was eighteen months of age. The child was under my care during its infancy, and during its tenth and eleventh months I watched it through several attacks which were no doubt appendicular colic. During this time the mother was very much worried and used to tell me that the child would wake up during the night, crying, apparently with much abdominal pain, so much indeed that after he was able to stand in his crib he would double himself, leaning over the side of the bed, seeking in this way to relieve his distress. If there be truth in Griffith's axiom, that pressure will only aggravate distress due to real inflammation in the abdomen, then at the time the child had not a true inflammatory appendicitis, but an appendicular colic, such as happened in the case of another child that I will speak of in a moment. The assumption that these attacks were of this nature is borne out by the family physician's notes which are as follows:

"——— male, seen August 31st, 1912. At noon of the day before had eaten six olives and tried to get more for which mother punished him and he cried. He complained of pain in his stomach and vomited. An enema was followed by good results. Vomiting continued during the day. He vomited one and one-half teaspoonful of Castoria which had been given him. Child quiet but normal. At 5 P. M. he sat up in bed and got very pale; he wanted to urinate but could not because of the pain over the bladder. Hot compresses did not relieve him. The child was limp and in shock and he was given a mustard foot bath. After the foot bath two doctors called, one of whom diagnosed a bowel obstruction and the other constipation or indigestion. Enemas and suppositories gave no results. He passed a little flatus. Child vomited but once the next morning immediately after a laxative. Seen by Dr. Bine in the afternoon, abdomen very slightly rigid, not sufficient to be of value in diagnosis, no tenderness complained of except in the region of the bladder and the left inguinal; none over the appendix. Rectal examination negative. No peristalsis heard over the abdomen. Child removed to hospital, he was examined here by consultant and child being no better on following day, operation was advised, but it was delayed. Examination under chloroform at 6 P. M. revealed nothing further than before. Operation was then urged, but delayed by the parents. Next day the abdomen was distended, bowels had not moved for three days; finally this morning there was a small liquid stool. After delay for further consultation, operation was performed at 2:30. Gangrenous appendix found, very friable, free pus in the peritoneum, drainage and recovery."

Another informing history is the one of D. H., three years of age. The child had an attack of tonsillitis accompanied by earache; five days later he was again taken ill, this time he was found to have a fever 100° F., pulse 110, no nausea nor vomiting; he was constipated, but not obstinately so. He had been waked in the night by a pain in the abdomen, this pain was referred to the umbilicus and just above; it soon passed away, but recurred at frequent intervals. During the next three days examination of the belly revealed a localized tenderness which was accompanied by some muscular rigidity localized to the upper half of the right muscle. There was absolutely no pain, tenderness, or rigidity at McBurney's point or in the right iliac fossa. There were 10,000 white cells of which 85% were polymorphonuclear. At the end of the third day the condition had entirely disappeared and the child seemed to have completely recovered and he was taken to his parents' country home to convalesce. Three weeks later he was taken ill with sudden and severe pain in the abdomen accompanied by vomiting; the pain was referred to the gall-bladder region and the upper part of the right rectus that showed slight rigidity; the fever was 103° F., the pulse 120, the respiration 39. He was brought to San Francisco at once, but the appendix ruptured before he arrived at the hospital where laparotomy was performed at once. Recovery was protracted but complete. The appendix lay well above the line of the umbilicus attached to an incompletely descended cecum, it contained an enterolith the size of a pine nut; there was a perforation directly at the end of the appendix which had caused a general peritonitis, there was no evidence of previous inflammation, neither kinking, thickening nor adhesion of the appendix. The first attack of pain was without doubt due to appendicular colic following an at-

tempt of the appendix to rid itself of the concretion. The question arises whether or not an operation should have been done at the time of the first pain. It think that it should. It seems to me fairer to the child to remove a healthy appendix than to overlook a potentially dangerous one as was done in this case.

The history of C. D., three years of age, shows that a tonsillar infection and appendicitis do occur simultaneously. On a Monday this child had his tonsils removed. The next day at about noon he was taken ill with a sharp pain just below the navel; he had intermittent attacks of sharp pain all that day with a constant dull ache in the abdomen. He had no nausea nor vomiting, neither constipation nor diarrhoea, but large amounts of flatus were passed. He was seen on the fourth day; then his abdomen was rigid and board-like, but not very tender. He had the general pain and tenderness of a post appendical peritonitis. His mother said that he had less pain during the last twenty-four hours; obviously this was due to the rupture. This case presents two important points; the relation of tonsillar infections to appendicitis; second, the absence of vomiting; a third point is the relief of pain following a rupture.

Comby's contention that some cases of "recurrent vomiting" are instances of recurrent appendicitis is borne out in the following history of K. S., aged three years. In the beginning of her second year this child was subject to attacks of "recurrent vomiting." At first there seemed to be little or no pain with these, but in each subsequent attack she would complain more, but as she located the pain on the left side the thought of an appendicitis did not occur to the parents. After she had been subject to attacks for nearly a year she was brought for examination. She said that there was a pain in her stomach, and she objected to an examination of the left lower quadrant of her abdomen, seizing the examiner's hand. There was, however, little resistance here and none at all over the right side, but deep tenderness could be elicited and a mass made out. On laparotomy this mass proved to be the very long appendix tied down by adhesions to adherent coils of gut, the tip of the appendix had perforated and the child had besides an old localized abscess a general peritonitis, which illustrates that we must not dismiss the diagnosis of appendicitis merely because we find pain and tenderness absent from the right side and present elsewhere in the abdomen.

A. R., four years of age. Patient had pyloric stenosis as an infant, from which she recovered under careful medical treatment. The present complaint began four days ago, March 6, 1915, with the development of an acute infection of the upper respiratory tract, characterized by rise in temperature, loss of appetite, sore-throat, and coryza. Forty-eight hours later complained of an ear-ache, and on examination Dr. Houston found a bulging right drum, upon which a paracentesis was done. That same night, approximately thirty-six hours before the time the patient was seen, she began to complain of pain in the abdomen and vomited. Her temperature went up to 103, and the vomiting persisted. During the whole of the following day, patient seemed acutely ill, vomiting continued at intervals and she likewise complained of indefinite pain in the abdomen. Patient was first seen thirty-six hours after onset of vomiting and abdominal pain, forty-eight hours after the beginning of her acute infection of the upper respiratory tract. The physical examination showed a very well developed, well nourished girl of four years, evidently suffering from some rather severe acute condition. There was a sero-purulent discharge from the nose, and the tongue was coated. The throat was the seat of an acute inflammation. There was a sero-purulent discharge from the right ear, the mastoid was slightly tender, particularly at the inner side. This tenderness, however, could very well be explained by the otitis media. There was no tenderness along the internal jugular vein. The cervical glands were moderately enlarged, particularly on the right side. The thorax was very well developed. Heart—Aside from a rapid heart action, incidental to an acute infection, the heart was normal. Lungs—Following a very careful examination of the lungs, no definite changes could be made out either on percussion or auscultation. Abdomen was slightly distended. Thighs were drawn up on the abdomen as if the patient were making an effort toward relaxation. Liver and spleen were not enlarged. Over the whole lower quadrant and extending to the upper quadrant were areas of definite rigidity and tenderness. No masses could be outlined. Reflexes and extremities negative. Temperature 102. Pulse 120. W. B. C. 20,000. 85% Polys. Urine negative. A differential diagnosis naturally lay between some complication from the otitis media, an extension of the inflammatory process to the lungs, a consequential pneumonia, and an acute appendicitis. The absence of signs referable to the meninges, sinuses, and the brain led one to doubt the presence of any ear complication. Careful examination of the lungs failed to show any evidence of lung inflammation. On the other hand, the abdominal findings suggested strongly the presence of a severe inflamed process in the appendix, following the acute infection in the throat and otitis media. The case was seen in consultation by Dr. Rixford, who concurred in the diagnosis. Operation was performed two hours after patient was seen, and an acute fulminating appendix was found with small recent rupture. An appendectomy was done, and the patient made an uneventful recovery.

Appendicitis is a disease that attacks many children. At this age clinical manifestations differ little from those that develop in adults, almost without exception the first sign is a sudden access of generalized pain—frequently it comes on during the night—often the child is awakened by vomiting and later follows tenderness and localized pain, usually referred to the right lower quadrant of the abdomen. The fact that pain always precedes vomiting is a valuable diagnostic aid.

A rapid progress to gangrene and perforation

is much more common before the 5th year than later in life as evidenced by the fact that 73% of our cases of five years or under perforated in contrast to 28% in children between ten and fifteen.

Diaphragmatic pleurisy is the only condition that may be really difficult to differentiate, other conditions, especially abdominal adenitis may confuse, but a comprehensive study of the case should prevent an error. The gravest danger to these little patients lies in the fact that parents are allowed to think stomach ache a normal event in children's lives and to believe that purgation is a panacea. If they could be taught that every acute abdominal pain is a potential appendicitis and that purgation may be deadly, many children would be saved who now are doomed to die.

I wish to acknowledge my indebtedness to Dr. Emmet Rixford for access to his records, more than half the cases here studied occurred in his practice; and to Dr. E. C. Fleischner and Dr. René Bine for reports of some of the unusual cases included in this report.

RAT BITE FEVER WITH REPORT OF TWO CASES.*

By F. F. GUNDRUM, M. D., Sacramento, Cal.

Rat Bite Fever is an acute contagious disease acquired through being bitten by an infected rat, and characterized by recurring paroxysms of fever, a striking blue-red rash, and a strong tendency to transitory paralysis of the lower extremities.

History. The disease has long been known in Japan by laity and profession alike. A rat bite is looked upon with dread similar to that of a dog in this country where rabies is prevalent. Ancient Japanese medical writers, that is, those whose writing antedated the introduction of Western medicine late in the 19th century, gave a considerable amount of attention to Rat Bite Fever or "Sokodu." The first description by a modern Japanese writer was that of Katsura which appeared in a system of surgery published about 1890. Miyake (1) in 1900 "was able to find no case in European literature." He accounts for the frequency of the disease in Japan by the flimsy structure of many Japanese houses, which allows rats to gnaw their way through floor or walls with little difficulty.

Distribution. Rat Bite Fever has been endemic in Japan for a great many years. It is sporadic in China and appears occasionally in other parts of the world. I have found notice of cases from England, Scotland, France, Spain, Brazil, Germany, Italy, India and the United States. The first American case report is by Wilcox in 1840. He, however, did not recognize the true nature of the disease. Since that time there have been twenty-two others recorded. I have been unable to find mention of any previous case in California. Inquiry at the University of California Hospital and the Lane Hospital brought to light no instance of this disease. I sent out a letter asking for information on Rat Bite Fever to forty physicians practicing at various localities throughout the State. None had seen it.

Transmission. The epidemiology is strictly analagous to that of rabies except that the rat is the main reservoir of the disease instead of the dog. It was for a long time thought that wandering rats only were the carriers. This is incorrect. Any rat may become infected with the disease. Only the bite of an infected rat can produce it. One or two patients have been inoculated by the bite of other animals closely associated with rats, namely, squirrels, weasels and cats.

Incubation. This period varies greatly, the shortest five days, the longest a month, average about two weeks.

Etiology. The specific organism has been the subject of considerable research and some difference of opinion. Ogata (2), in 1908, described a protozoan in the blood. This finding has not been confirmed. Proescher (3), in 1911, described numerous bacilli about the site of the bite. A streptothrix found in the blood during the febrile period has been reported by Schottmuller (19), Blake (15), Tileston (20). Tunnicliff (21), has shown that the organism of one of the bronchopneumonias affecting white rats is due to a streptothrix very similar to the one described by Schottmuller. Futaki, Takaki, Taniguchi and Osumi (23) described a spirochaete isolated from their series of cases. The course and curability with Salvarsan would seem to point toward some protozoan organism rather than a bacterial invader.

Symptoms. The bite at first heals kindly. After a varying time a sense of fullness, heat and pain is noticed, with swelling of the regional lymphatic glands and fever. There is considerable prostration with severe pain in the head, back, and especially the limbs, frequently marked weakness in the legs.

Physical Signs. Fever: A sudden rise of temperature, accompanied by a chill, apt to be quite high and run a continuous course from three to seven days, drop by crisis and remain down for from one to five days. This intermission is followed by another febrile movement similar to the first.

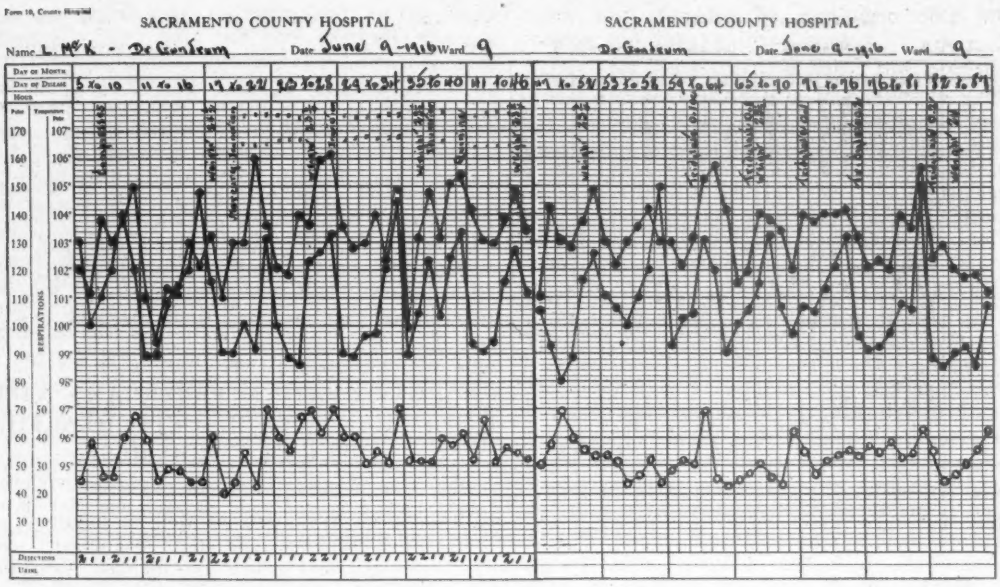
Changes at the Site of the Bite: Inflammation and bluish red discoloration followed later by pus formation, less often gangrene.

Lymphatic System: The regional glands become greatly swollen, very tender; usually do not break down.

Rash: Highly characteristic; reddish, or bluish red macular exanthem; patches varying from the size of a pea to that of a twenty-five cent piece; slightly indurated, well defined, appears on neck, face, body, extremities, palms and soles; not seen on mucous membranes. With fall of the temperature the rash fades, leaving a slight scaliness. The rash reappears with each rise of temperature.

Nervous System: May be very much involved; benumbing of the sensorium, slow speech, intense headache, delirium, often ringing in the ears and dizziness; severe muscular pains, particularly in the legs; paresis of lower extremities more or less

* Read before the Medical Society State of California, Coronado, April 18, 1917.


SACRAMENTO COUNTY HOSPITAL
Name L. McK - De Grantham Date June 9-1916 Ward 9
SACRAMENTO COUNTY HOSPITAL
De Grantham Date June 9-1916 Ward 9

severe. Occasional anaesthesias and paraesthesias are noted.

Alimentary Tract: Symptoms not usually severe, may have nausea, vomiting, anorexia and coated tongue, sometimes diarrhoea.

Circulatory, Respiratory and Genito-Urinary systems are not much disturbed. Liver and spleen not enlarged. Blood changes are not characteristic, a moderate eosinophilia frequently found.

Diagnosis. An intermittent fever, bluish-red rash, severe muscular pains with weakness in back and legs when accompanied by a history of antecedent rat bite are diagnostic. The finding of a specific parasite, if confirmed, would of course be pathognomonic.

Clinical Types: Three more or less distinct clinical types are recognized. (a) Febrile with exanthem, (b) Afebrile with severe nervous symptoms, (c) Abortive.

Prognosis: The gross mortality has been about 10%.

Duration: May be very long, Surveyor (7), records a case of eight years standing. This patient was cured by a single dose of Neosalvarsan. The average course is perhaps eight weeks.

Prophylaxis: Rat destruction and immediate cauterization of rat bites would in a large measure prevent the disease.

Treatment: The ancient Japanese treatments described by Taki Rankei about 1795 consisted first of local applications made to the bite immediately and designed to destroy or withdraw the virus from the wound. They were suction, poultices of herbs, actual cautery or filling the wound with gun powder which was then exploded. There were also practiced especially by the laity measures which smacked more of magic, such as binding upon the wound a bit of raw meat which was then fed to a cat. Later under the influence of European teaching, quinine, arsenic and salicylates were used, but without very strikingly good results. In 1912 Hatta (4) reported the treatment of eight cases with salvarsan, seven recovered. Since this publication many others, particularly in Japan and India, where Dalal (8) says the disease is common, have recorded successful treatment of Sokodu with these newer arsenical compounds.

Case Reports: During June, 1916, there were admitted to the Sacramento County Hospital two patients, one of whom had a classical, the other a so-called abortive attack of Rat Bite Fever.

Case One: L. McK. Aged 14 months, admitted to the children's ward June 9th, 1916, complaining of "fever and rising under the arm."

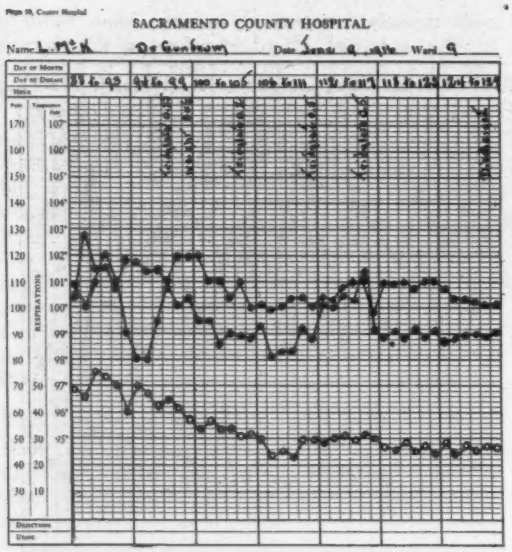
F. H.: The family is itinerant, driving up and down the State in a wagon, subsists through picking hops, grapes, and fruit. One brother is now in the hospital with tertian malaria.

P. H.: Breast fed to seven months, then condensed milk, gruels and soups. Now eats mixed diet of the family larder. Has always had a very large abdomen and always been extremely constipated. Three weeks ago during the night a rat came into the tent in which the mother and baby were sleeping, bit the child on the left index finger and the mother on the neck. Neither bite was considered serious. The wounds healed without attention.

P. I.: Three days ago, eighteen days after the bite, the left index finger become swollen, hot, bluish-red and very painful. The patient had a chill followed by high fever. The mother thought this child also had malaria, and gave him quinine but without benefit.

P. Ex.: Fairly well developed child; weight 23½ pounds; head normal, except for a few adenoids; heart and lungs negative; abdomen very much distended, soft and upon palpation found to be occupied by a huge colon. Mother said abdomen about the same as usual. Temperature 103; pulse 160; respiration 24; left index finger greatly swollen, hot, bluish-red in color. There is a recently healed scar at the second joint. A few reddish streaks follow the lmyphatics up the arm to the axillary glands which are greatly swollen, seem discrete, rather hard and nowhere fluctuating.

Rash: Upon the body and limbs there is a striking bluish-red sharply defined, slightly elevated, macular rash, the blotches varying from three to



fifteen mm in diameter. Throat negative. Urine negative; stool negative; Blood: Hb 90%; R. B. C. 4,700,000; W. B. C. 12,000; Differential; Polymorphonuclear 70%; Mononuclear 26%; Eosinophile 4%; no plasmodia seen. Smear from site of bite stained with carbol-fuchsin showed numerous bacteria, no type predominating. Blood culture into bile broth negative. Guinea pig inoculated with fresh blood remained healthy.

Course: The patient had a continuously high temperature for six days. Then the temperature dropped to normal, where it remained for two days, after which another paroxysm of fever, rash and fretfulness ensued, lasting five days. This irregular course of alternate fever and normal temperature continued for 117 days. We were not at this time able to obtain Neosalvarsan or Salvarsan. The boy was treated first with quinine, later with mercury inunctions without any benefit. At the suggestion of Dr. Alderson who was during this period using intravenously a compound of cacodylate of Iron, Mercury and Arsenic in the Stanford Skin Clinic, we began giving the patient small intravenous doses at five day intervals. We started with 0.1 cc. and increased gradually to 0.5 cc. The patient recovered in about four months. Whether the treatment had anything to do with his recovery I am not prepared to say.

Case Two: Mother of foregoing, four weeks after being bitten had chilly sensations, fever up to 101, tenderness and swelling in the glands of the right side of the neck with a faint bluish rash. Recovered in about a week without treatment. This was considered an abortive case.

References:

1. Miyake, Mitell: a. d. Grenz, der Med. u. Chir., vol. 5, p. 231.
2. Ogata: Deutche Med. Woch., June 18, 1908, p. 1099.
3. Proescher: Internat. Clinics, 1911, vol. iv, 21st series, p. 77.
4. Hatta, H.: Munch. Med. Woch., April 16, 1912, p. 855.
5. Horder: Quarterly Jour. Med., vol. 3, 1909-10, p. 121.
6. Dick, M. D., and Rutherford, W. J.: British Med. Jour., vol. 2, 1913.
7. Surveyor, N. F.: Lancet (London), vol. 2, 1913, p. 1764.
8. Dalal, A. K.: Practitioner, London, 1914.
9. Zannini, W.: Gazetta degli Ospendali e delle Cliniche, Milan, 1914; an. xxxv, No. 75, p. 793-800.
10. Perugia and Carchidio: Riforma Medica, Naples, 31, 1915, p. 229.
11. Chagas: Brazil Medico Ann. xix, n. 28, 1915, p. 217.
12. Crohn, P. B.: Arch. Int. Med., June, 1915, p. 1014.
13. Reid and Ritchie: Edinburgh Med. Jour., 1915, p. 186.
14. Oda, Z.: Sei-I-Kwai Med. Jour., Tokyo, vol. xxiv, No. 10, p. 52, Oct. 10.
15. Blake, F. G.: Jour. of Exper. Med., Baltimore, xxiii, 1916, pp. 39-60.
16. Futaki, Takaki, Taniguchi, and Osumi, Tokyo: Jour. of Exper. Med., Baltimore, xxiii, No. 2, pp. 149-264.
17. Nakasone, K.: Sei-I-Kwai Med. Jour., Tokyo, vol. xxv, No. 1, pp. 1-4.
18. Editorial: Jour. A. M. A., October 9, 1915, p. 1285.
19. Schottmuller, H.: Dermat. Wchnschr., 58, 1914, p. 77.
20. Tileston: Jour. A. M. A., April 1, 1916, p. 995.
21. Tunnicliff: Jour. A. M. A., vol. lxvi, 21, p. 1606.
22. Editorial: Jour. A. M. A., March 18, 1916, p. 894.
23. Futaki, Takaki, Taniguchi and Osumi: Jour. of Exper. Med., vol. xxv, No. —, Jan. 1, 1917, p. 33.
24. Wilcox: Am. Jour. Med. Sc., 1840, vol. xxvi, p. 245.
25. Watson: N. Y. Med. and Surg. Jour., 1840, p. 363.
26. Gilliam: Cincinnati Lancet and Observer, 1868.
27. Packard: Phila. Med. Times, 1871-72, vol. ii, p. 408.
28. Earle: Chicago Med. Exam., 1872, p. 3.
29. Banker: Am. Pract. and News, 1886, N. S. ii, p. 70.
30. Cook: Indiana Med. Jour., Indianapolis, 1885-6, vol. iv, p. 77.

A CONSERVATIVE PHYSICIAN'S VIEW OF THE PROPOSED SOCIAL HEALTH INSURANCE SCHEMES.*

S. E. SIMMONS, M. D., Sacramento.

Conditions of society, as well as industry, are constantly changing, and the government seeks to formulate laws which are founded upon theories which seem tenable and applicable to present conditions. But the question arises in our mind, how far can the State in its legislation, advance between the extremes of Individualism and Socialism.

Two years ago we advanced along radical socialistic lines in the establishment of Industrial Accident Insurance; we now have the proposition, as outlined by Dr. Rubinow, to call upon the State to establish in addition, Social Health Insurance, which in turn is but the forerunner of other forms of State socialism which will probably follow and be applicable to insurance against non-employment, maternity insurance, old age, invalidism and death.

We all of us try to comprehend how far the law shall go or shall restrain, or compel or interfere with the freedom of the individual for ethical, economic, social or other ends. Economically we may deny that we are all socialists, and yet, if the schemes proposed by Dr. Rubinow are adopted in California, or made national in their scope, we will have a form of socialism which to me seems inapplicable in a true democracy.

The average citizen merely delegates to the State his right to legislate and make laws for him, because he finds it impractical and inconvenient for him to legislate in his individual capacity; the members of the community find that many desirable results can only be accomplished through collective agencies, but the State nevertheless remains his servant; in other words, he can if he will, and does command the State to do his bidding. Such being the case, we may presume that there is a call on the part of the people, for legislation such as is proposed by Dr. Rubinow in his Social Health Insurance schemes; but if I understand the attitude of labor along these lines, it is a matter of more

* Paper read before the Sacramento Society for Medical Improvement, October 10, 1916.

or less indifference to them, and in this State especially, they have not been particularly active in demanding this advanced legislation; in fact, some of their leaders have been quoted as being entirely opposed to these moves, on the ground that it interferes with individual liberty, and with the choice of selection of their medical attendant.

True enough, the State must often subordinate the independence of the individual to the general good, it must sometimes compel the individual to do certain things; otherwise we should not adopt the term compulsory accident insurance or compulsory health insurance.

As far as one can find in following the work of the Social Health Commission of California, we see that their investigations concern chiefly the working man and his family. By the proposed laws which they are formulating, they will seek to see that he is well clothed, well housed, well fed, and that he must live and work among satisfactory hygienic conditions, that he must have hospital, medical and surgical attendants in illness as well as after accident. It might even be conceived that they would attempt to see that he was educated and have a certain amount of mental and moral training; all these with the idea of placing him on terms of economic equality with other citizens of the State.

The Federal constitution, as well as the constitution of most of the States guarantees equality; equality of opportunity as well as political equality, which in many instances turns out to be a mockery and a delusion, chiefly for the reason that there is no such thing as equality of industry, thrift, health, activity, courage, morality, mind, physique, education or training.

We all know what has been done along these lines in England and Germany, but we make a gross error in presuming that industrial conditions are at all the same in these countries, as in California. It is stated by the Chancellor of the Exchequer, that 57% of the wage earners in the kingdom, earn less than twenty-five shillings a week; i. e. $5.00.

In Germany, more than one-fourth of the population come under the head of compulsory insurance, both accident and health, and as the limit in that country for insurance is two thousand marks ($500.00) per year as wages, it figures out that one-fourth the population is making $9.50 a week or less, vastly less, I should say. Can we compare these wage figures with conditions existing in California? Does it occur to any of us that 25% of the population in California is getting less than $5.00 a week as in England, or less than $9.50 a week as in Germany; though facts and figures are not at hand, it is very much to be doubted if such is the case.

One seldom hears of a working man in foreign countries rising out of his class, and the maxim may be given that "once a working man there, always a working man." In this country, and particularly in California, all of our great fortunes were founded by men who once were making less than a living wage.

It is not necessarily the "high cost of living" which makes existence here in California a burden to many of the population, but in the words of the late J. J. Hill, it is rather the "cost of high living," for the working man in California demands pleasures and luxuries, which the working man of foreign countries does not demand or expect; in other words, conditions and institutions that are applicable to the workers of foreign countries, do not necessarily apply in the least to the workers in this country.

Furthermore, in Germany, autocratic and monarchical as it is, the employer is not forced to pay the entire cost of insurance of the employee in case of accident, as is the case in California; for here, the latter pays the entire insurance fee, while in Germany the employer pays but one-third, and the employee pays two-thirds; this naturally tends to a spirit of thrift and economy, and makes the working man feel that he is not a subject of charity in case of accident, but is receiving benefits to which he has actually and honestly contributed.

In England, the proposition is somewhat altered, in that the employer pays three-ninths, the employee four-ninths and the State two-ninths, respectively.

One employer in Germany says, "Personally, I can not resist the feeling that the excessive provision made for the worker by legislation, tends to weaken in him, the consciousness of his personal obligation to provide independently for himself and his family; men who under other circumstances, (i. e., in the absence of similar insurance protection laws), would so act from their own sense of responsibility, unquestionably rely on the assurance that the law will provide for all the vicissitudes which may befall them, and will intervene on their behalf, under all circumstances, in case of need. In this way, the feeling of responsibility is weakened in many workers, and this I regard as the most serious defect of the laws."

Unlike the paternalism of our state government in regulating the doctor's fee, the German government has declined absolutely to consider the fixing of minimum rates of pay for medical attendants, and has left the whole matter to be regulated by the various societies and funds, such as the Leipsic Fund and the Frankfort Fund, wherein the whole question of remuneration is considered to be one for the negotiation between the parties concerned.

In relation to the proposed legislation as it affects us in California, much can be said; that these institutions as proposed by Dr. Rubinow can be put into successful operation only by the hearty co-operation of the members of the medical profession. The question before us which is the most profound and far-reaching of any which ever came before this society, is up to us from henceforth for our solution. Casting aside all ideas of benevolence, public help and utilization schemes

which this society has always stood for, let us face the problem as it confronts us, from a purely economic and social point of view. It may be argued that the Medical Profession as a whole, will receive more for this class of work than it has ever done before; that may be true, but we as individuals, are certainly destined to receive less.

In this society a little more than a year ago, requests were made for a list of those who were willing to do the State's work for a fee as stipulated, and with which you are familiar, very much less than the fees heretofore charged for the same class of work. I know of no better way than to quote some of the figures from the California Commission, to show how ridiculously low this fee was, per case tended. In 1914, there were 62,211 Industrial accidents in California necessitating medical treatment. For the medical services, (*including hospital charges*), the physicians and surgeons of California received $730,178. This averages a little over $11.50 per case, and includes, as you well know, such operations as trephining, herniotomy, plating of broken bones, and many other capital operations, *as well as the hospital fee.* Think of it, gentlemen, $11.50 a case, including hospital fees, and nearly half of these cases (47%) were alien to this State and nation.

As an argument to promote this Social Health Insurance, it is said that the sick have heretofore frequently received inadequate service from their physicians, or perchance they were refused attendants and were urged to go to a public institution. The sentiments of this society at present are no doubt due to the spirit of commercialism that has recently prevailed in its ranks, but I well remember that our fathers held it was our duty to respond to *any call,* and to refuse to visit a poor patient from whom a fee could not be expected, represented a sin which could hardly be forgiven.

Taking it for granted that there are 720,000 workers in California coming under the operation of the Accident laws, and that there were 62,211 injuries compensated for in that period (1914-1915), it makes a proportion of one worker in eleven receiving benefits.

In Germany, in 1912, of 19,082,758 workers, there were accidents compensated for to the number of 711,330, a proportion of one injured to 27 insured workers. This leaves us to surmise that the Commission in California is more liberal in making allowance for injuries, and hence it involves more expensive insurance, or else there is a greater degree of malingering, or else appliances for the safety of the worker are lacking, or else the California worker is very negligent of his own person.

Nearly three-quarters of the members of this society have signified their willingness to become members of the panel which would do this cheaper industrial work, and yet we have very good reason to believe that the State Commission wishes to concentrate the work in as few hands as possible; therefore, those who are doing this work benefit themselves as individuals alone, and the society as a whole suffers.

The Imperial Chancellor gave as an excuse when the Germans invaded Belgium and thus violated their neutrality, that they were under an act of dire necessity, and since necessity knows no law, they were compelled to act as they did.

Gentlemen, we are under the necessity of refusing to lower our standards of remuneration at the behest of the State. As an illustration of what hearty co-operation on the part of a whole organized medical society can do, I may simply quote a personal experience to illustrate what happened at the time of the insurance scandals in New York, where under the policy of retrenchment, as demanded by the Commission, the medical fee for examination was reduced from $5.00 to $3.00 by most of the big companies there operating; thus the medical man was the first to suffer. I refer to the Equitable, the Metropolitan, the New York Life and the Mutual Life of New York. Two of these companies I know, being unable to find satisfactory medical examiners in this community, voluntarily offered to restore the fee from $3.00 to $5.00, meanwhile, at the local agent's expense, they sent their applicants to San Francisco, in order to have better and more reliable examinations. The State in presuming to set a fee for remuneration, has seriously affected the status of the medical man, and since the success of this Social Health Insurance scheme depends entirely upon the medical man's active and hearty co-operation, it is not unreasonable to suppose if we withhold the latter, that the State will then grant us remunerative fees which are commensurate with our dignity and with our services.

It seems as if the State must recognize the fact, that we as a profession are not organized, or they would not dare to dictate to us in the matter of remuneration, what they would hesitate to do to the lowest organized worker in the State, whether he be scavenger or hodcarrier.

Recent developments go to show that the State Commission wishes this work distributed not equally among the many who signed the panel, but to a very few, in fact two in the profession, in this community.

From the payment of a stipulated fee per case, to the establishment of a capitation proposition is but a step; this is now transpiring in the English Funds, and well within the power of the Commission, thus we will have the evils of lodge and contract propositions to struggle with, but with the State as an opponent instead of a private company. It is to be truthfully inferred that we should be the loser thereby; and the Doctor, instead of being a voluntary contractor and member of a profession, will find himself in the position of a wage earner.

Again, while the State Accident Commission deprecates malpractice suits and does what it can to forestall them, nevertheless the surgeon is considered an independent contractor, and hence

liable to suit and judgment with damages, if found negligent; this forces us to take an increased risk, without returns at all commensurate with the responsibilities.

We have all seen cases of malingering under the workings of the Industrial Accident law; if such procedures as faking an injury or prolonging the convalescence after receipt of an injury, are not uncommon, how much more readily can the deception be practiced in cases coming under the strictly medical category? In England particularly, much dissatisfaction is expressed because at times the claim for compensation for aid is refused, on the ground of anemia and debility, for which rest, and rest alone, is prescribed; when the worker is tired and desires a rest, or perhaps sees a hard winter ahead with the prospect of steady employment diminishing, it is found that many make false claims of illness in order to receive the two-thirds pay. If prophetic vision be allowed us, and these Social Health schemes be put in practice, here in California, I can quite agree with Dr. Rubinow in what he says on page 271 of his valuable book, "Social Insurance," I quote: "For it is an unmistakable sign of the times, that private Medical practice is a declining institution, that it is expensive, wasteful, and inefficient, and it must give way to organized Medical Service"; in other words, gentlemen, if these Social Health laws are enacted, we soon will be in much the same position as a gardener, looking for a State job for the care of lawn and trees, or attendants looking for a position in the State Hospitals where politics and not worth and capability necessarily play the chief roll. In other words, we will have degenerated and degraded ourselves from an honored estate of free, independent citizens, practicing a noble calling, into mere public and State servants; personally, I am grateful to the fates for having been permitted to practice for seventeen years under conditions as they are, and not as they are likely to be, unless shoulder to shoulder, and with a strong common purpose of self-preservation, we present a united front and combat the inroads of fanciful, impractical and utopian schemes, which will seriously interfere with our well being, even our livelihood. Different bills have been presented in New York, New Jersey and Massachusetts, IDENTICAL IN THEIR WORDING, showing the same source; fortunately, they have been defeated, and defeat has been largely brought about by the indifference, and even the hostility of the workers themselves. It is a well known fact that Mr. Samuel Gompers is opposed to any form of Industrial or Health Insurance, save as a purely voluntary insurance.

But the defeat in the above mentioned States is not decisive, it has only been deferred and postponed for the time being. California's workers are not at all to be compared with those of the States mentioned (they being our most important manufacturing states), for our economic, social and financial status is vastly superior. Let us try to see that California is *not always* in the vanguard of freakish legislation, where such bills are entertained, if not passed, as the standardizing of Pullman sheets and the pensioning of retired baseball players.

EXFOLIATIVE CYSTITIS.*

By GRANVILLE MacGOWAN, M. D., Los Angeles.

Exfoliative Cystitis is a pathological process apparently arising in the course of vesical infection without any consistently definite or specific cause though passive congestion with ammoniacal decomposition of the urine are present. In its course primarily the epithelial layers at first increase markedly in thickness, but eventually become necrotic, separate from the submucous or muscular tissues beneath and are spontaneously discharged or removed surgically, either in the form of greyish or dirty buckskin colored and blood-stained casts of the complete mucosa, often with shreds of the muscular coat attached, or as small sheets of the same material. It is much like an exfoliative dermatitis, but unlike the latter accompanied by suppuration. There is also bloody, foul and purulent urine, increased frequency of micturation, irregular retention, and the passage of gravel preceding the exfoliation. The membrane when passed or removed is filled and covered with deposits of phosphate of calcium and triple phosphates. After the discharge or removal of the membrane, the bladder is raw and bleeds easily, but if kept clean, it is in time recovered with fresh epithelium. The capacity of the viscus is, however, permanently diminished, and hence frequent urination is the rule in those cases that recover.

The disease is much more common in females than in males, and has been often noticed as following passive congestion of the vesical mucosa in displacements, retroversion, of the gravid uterus. In males it has sometimes seemed to follow unclean instrumentation, but I am satisfied that exfoliative cystitis will not follow infection and retention of ammoniacal urine in males, without the element of passive congestion, promoting lowered vitality in the loose submucous tissues.

In Curtis'[1] case, in a woman of fifty-two, there had been some urinary distress for two years and attacks of hematuria and gravel for one year before she applied for relief. The infective agent was apparently a pseudo-diphtheria bacillus which was present in pure culture. An autogenous vaccine was used for treatment without benefit. Cystoscopic examination showed a dirty membrane coating all parts of the bladder mucosa, concealing the ureter meatii and from the vault hung many shreds "like stalactites in a cave."

The treatment of these cases is more simple than satisfactory when caused by retention following passive congestion due to uterine displacement; the discovery is made too late for operative interference. Reposition of the displaced uterus should be sought in the knee chest position. I have thought that those cases where the cause of

* Read before the Forty-sixth Annual Meeting of the Medical Society of the State of California, Coronado, April, 1917.

1 Curtis, J., A. M. A., January 16, 1915, p. 270.

the passive congestion is not clear, the pressure of a prolapsed stomach and colon demonstrated by the x-ray, into the pelvic cavity would furnish the explanation. I have traced the occurrence of moderate grades of chronic cystitis to this cause a number of times, and have cured my cases by posture and abdominal supports. If circumstances permit such investigation in case of exfoliative cystitis, I should adopt it and do recommend it.

In the presence of retained urine, an inlying De Pezzer or Malecot catheter should be used and the bladder cleansed frequently with one of the usual mild agents while at the same time, the kidneys should be kept active under forced water and moderate doses of Benzoate of Soda given to insure an acid urine being poured into the kidney pelves. No local application to the bladder, with the hope of dissolving or loosening the membrane appears to be of any value; pepsin, enzymol and the lactic acid bacillus have all been used, but the success is not encouraging. If diphtheria were shown to be the cause, or a pseudo-diphtheria, the use of antitoxin would certainly seem rational. The bladder should be examined from time to time with an operative cystoscope and any loose membrane removed through it. In women, the loose membrane may be picked up through a large calibered urethrascope and by gentle pulling, coaxed to, and through the bladder neck. Vaccines have doubtful values, for as my case shows, the organism present today may not be the predominating one in a fortnight. Santyl, or oil of sandalwood and hexamethylenamine are useful once the membrane has loosened itself. Cystotomy may be necessary for drainage or because, and this is particularly the case in males, the cast-off membrane is too large and full of stones, or too friable, to be withdrawn through the urethra. In no case should an attempt be made to separate the membrane by violence; in time the membrane will separate itself. In the meantime, general hygienic measures, good food and a continuous vesical toilette are the measures best suited for obtaining relief.

As soon as the ureteral mouths can be seen the function of each kidney should be determined and the damage done repaired to the best of the surgeon's ability by drainage, lavage of the infected pelves, the use of plenty of pure water and unirritating urinary antiseptics.

Judging from the cases reported in literature, the mortality is from 20% to 25% and complete restoration of vesical comfort is unusual.

Mrs. R. was taken ill on the 26th day of February, with pneumonia. I did not see her during this illness, but understand the pneumonia was of a severe type. When recovering, she was attacked with a severe cystitis, and at the same time had an abscess of the muscle walls of the abdomen on the right side. Cystoscopic examination was made by a competent urologist and showed a membraneous cystitis extending over the whole bladder mucosa. The mouths of the ureters could not be distinguished. The abscess in the abdominal muscles was supposed to arise from this condition of the bladder and perhaps due to a diverticulum. The abscess was opened and drained and a culture taken from it and also from the bladder. The bacteriologist making the examination reported both to be a streptococcus infection. A vaccine was made from these cultures and used a few times without any benefit. The abscess cavity healed in time; it was not connected with the bladder.

I saw Mrs. R. in consultation with Dr. Brownfield who was the attending physician on the 13th of April, for continuous incontinence. At that time her attendant thought her bladder would not contain any urine, but I found a retention of about 50 c. cs. of very foul urine. A culture made from this grew a perfectly pure colon bacillus. On April 14, a portion of the membrane presented itself at the meatus and was removed by gentle traction. This membrane was full of phosphatic concretions and was very thick. On April 17, I removed another large piece of membrane and then cystoscoped her. Quite a surface of the bladder wall was then free from membrane, but the ureteral mouths could not be observed. On April 25, she was examined again with an operating cystoscope and a number of loose pieces of membrane removed through it, together with a calculus which I crushed before extracting. On May 16, the cystoscopic examination showed the bladder free of membrane, both ureters could be plainly seen, both were dilated, the right one grooved, there being a channel in the bladder wall leading up to it like that made by a Fresno scraper. A ureteral catheter passed up the right ureter obtained 50 c. cs. of urine in a steady drip before the regular ureteral intermittent flow appeared; and on the left side 30 c. cs. The urine of both sides was cloudy, but that on the right side clearer than on the left. Microscopical examination showed a little pus and a few colon bacilli on the right side, and on the left considerable pus, epithelium, debris, urates, indigo, and an occasional red blood cell. Micro-organisms from the left side stained fresh as streptococci. She had a hydronephrosis of both kidneys, the dilation being greater on the right side and the infection greatest on the left. The pelves of both kidneys were washed out with a one-fifth per cent. of silver nitrate. A vaccine was prepared from the culture made on the 13th day of April, and the initial injection of 25,000,000 given on April 16. Injections were given at intervals of five days and the local reaction following each dose was marked but not severe. The quantity was increased until, on June 5, it was 150,000,000. The bladder was cleansed daily twice, by irrigations with mild antiseptic solutions. About May 1, dribbling ceased and she regained vesical consciousness, being able to tell when she wanted to urinate and having the power to do so, but there was some residual urine until May 16, when following lavage of the kidney pelvis with 5% silver nitrate this disappeared. From then until June 5, she had renal lavage with nitrate of silver solutions every

third day. When she left my care she had to urinate every two hours during the day and every three hours at night, her greatest bladder capacity being 60 c. c. Since her return to her home in Chicago she has been under the care of a celebrated urologist, who reports her general condition much improved but that the bladder capacity has never exceeded 100 c. c.

INTERNAL HEMORRHOID OPERATION AND AFTER CARE UNDER QUININE-UREA HYDROCHLORIDE ANESTHESIA.*

By E. JAY CLEMONS, M. D., Los Angeles, Cal.

In presenting this paper I do so with no intention of adding anything new to medical literature but simply because of the fact it is my belief this technic comes as near fulfilling the golden rule of surgery by "relieving our patient —pleasantly, safely and quickly," as is possible with our present knowledge.

I realize and respect the fact that every surgeon doing proctologic work develops more or less of an individual technic as the range of preparatory treatment, anesthesia, surgical procedure and after care, cover a great range of modioperandi, which is undoubtedly due to the fact a certain technic in one man's hands will not give the same results in other hands and because the success of this operation depends upon the operator's ability to control his patient and receive that patient's co-operation.

I therefore offer the following for an "Internal hemorrhoid operation and after care, under quinine-urea hydrochloride anesthesia."

In dealing with this subject I will use that classification of internal hemorrhoids which recognizes them in terms of degree, namely, first, second, third and fourth degree. First degree is that stage when the internal hemorrhoid has descended just sufficiently to be grasped by the external sphincter, during the act of defecation, and gives the symptoms of more or less acute pain and hemorrhage, which hemorrhage is characterized by spurting of blood during defecation. Second degree is that stage when the internal hemorrhoid comes past the external sphincter, which hemorrhoid returns without assistance after stool. This stage is characterized by pain during the act, the feces being blood streaked from coming in contact with the congested hemorrhoid. Third degree is that stage when the internal hemorrhoid protrudes at stool and does not return of itself but has to be replaced. This stage is characterized by the presence of a tumor mass. Acute pain and hemorrhage are not prominent symptoms as the mucosa is becoming thickened and accustomed to the condition. Fourth degree is that stage when the internal hemorrhoid will not remain replaced within the sphincters but remains exposed to the world and becomes of the appearance of skin.

During all these degrees the sympathetic nerve supply is at times, if not constantly, in contact with the external sphincter and our patient suffers from reflex interference with peristalsis characterized by gaseous distention of the stomach, constipation, faulty assimilation and elimination, as well as nervous manifestations from reflex and toxic origin.

In giving this classification, you undoubtedly noticed it referred to a single hemorrhoid. The symmetry of the hemorrhoidal areas correspond to the leaves of the clover. As the clover generally has three leaves the hemorrhoidal areas, also, are three in number and each passes separately through the different stages of degree, hence it is possible to have the three hemorrhoidal areas in different stages of degree at the same time.

While it is important to keep in mind the three hemorrhoidal areas in dealing with this pathology it is even more important to consider the intervening spaces, as this is the tissue which should be respected and utilized in the reconstruction of the anorectal region. Also, it is necessary to consider and attack the anal parts that gave way and allowed the hemorrhoid to descend from above to the first degree, from the first to the second degree, and so on, as it is to attack the hemorrhoid itself. In fact, any procedure which does not do this does not fulfill the requirements of a hemorrhoidal operation.

This brings us to the objects of the operation which objects are, first, to remove the offending hemorrhoid or hemorrhoids; second, to anticipate and eliminate the development of other hemorrhoidal areas; third, to repair the parts in such a way as not to interfere with the normal nerve supply, at the same time prevent the mucosa supplied by the sympathetic nerves from coming in contact, in the future, with the external sphincter which is supplied by systemic nerves; fourth, and lastly, to reconstruct the region to correspond to the natural condition and not have post-operative tags and contractures.

Some of the operative advantages of quinine-urea hydrochloride anesthesia are as follows: first, quinine-urea hydrochloride is not primarily an anesthetic, hence our operative anesthesia depends upon operative technic; second, in following the operative technic it is necessary to proceed so slowly that you do not hurt the patient, by so doing there is the great advantage of the definite knowledge of the exact amount of pressure you are using; third, quinine-urea hydrochloride is non-toxic which fact enables the operator to use the desired quantity of the anesthetic solution to prolapse and anesthetize the pathology and bring out the intervening spaces referred to; fourth, by being able to prolapse the hemorrhoidal area and put the intervening spaces on the stretch it enables one to remove the hemorrhoid and leave the intervening mucosa to cover the surface; fifth, the amount of pressure necessary to prolapse the hemorrhoid distends the skin just sufficiently to denote the amount of skin that is necessary for removal.

Some of the post-operative advantages of the use of quinine-urea hydrochloride anesthesia are as follows: first, being non-toxic, there is no reaction as after the use of certain toxic drugs;

* Read before the Surgical Section of the Medical Society of the State of California, San Diego, Cal., April 19, 1917.

second, it is not necessary to use drugs of the nature of adrenalin to block off the absorption, hence there is no interference with blood pressure; third, quinine-urea hydrochloride being a mechanical irritant to the tissues causes the production of a plastic fibrinous exudate, which exudate is of a decided advantage when operating in this region, as it brings the elements of repair to the parts, and after the first sanguinous exudation, minimizes post-operative oozing; fourth, there is produced what is to the patient, at least, the main advantage—that being the post-operative anesthesia, which anesthesia lasts during the period the fibrinous exudate is being absorbed, which is generally from five to seven days; fifth, the plastic exudate having been thrown out and absorbed produces a barrier which enables the operator to safely get his patient on his feet and back to his occupation during the process of repair.

Before proceeding with any anorectal operation it is very necessary to make a proctoscopic examination at which time the patient should be instructed in regard to taking and relieving himself of the enema solution, so as to give no trouble at the time of the operation. Instruct him to take no laxatives, to eat as usual, take tub bath the night before, and have for the preceding meal dry toast and black coffee.

Placing the patient on the left side, shave and cleanse the parts and give a two quart cold water enema. This requires plenty of time as it takes patience to overcome the spasm of the rectum and sigmoid. Proceed by allowing the water to run slowly till the patient begins to complain of pain, then stop and wait till the spasm passes when you may proceed again until the beginning of the next spasm. If he is unable to retain the water, lower the enema can and let the water return into the can, but do not let him expel it. If there is gas in the bowel it will pass through the enema solution. After the first sixteen ounces have passed and the rectum and sigmoid have relaxed, the balance will then pass freely until the solution is nearly all taken when he will again complain of pain due to distension of the colon. After giving the full two quarts, have the patient use a slop-jar so you can tell exactly when your two quarts have come away. Give instructions to strain forcibly and stop the instant the water gushes forth. Wait till there is sense of pressure, at the same time knead the abdomen slowly from right to left over the colon. In this way, six or eight ounces are expelled at a time, the bowel contents coming down from above to fill the rectum each time. When the patient is unable to expel any more in the sitting posture, have him stand up and knead the abdomen, between evacuations, and he will bring away two or more evacuations, in this way returning the water thoroughly mixed with bowel contents.

Owing to the fact the patient strained during each evacuation he completely prolapsed his hemorrhoids. With hemorrhoids prolapsed place patient on his left side, with knees flexed on abdomen and two pillows between knees.

Cleanse the parts and see that all instruments and solutions are cold, before proceeding with the operation, as any heat applied to a visceral area gives pain.

In giving the technic of this operation, which is adaptable to all degrees of internal hemorrhoids, I will describe in detail the removal of the left hemorrhoidal area in the stage of third degree. Under classification you were reminded of the fact that the hemorrhoidal areas are three in number, one of which is on the left side and two on the right side; this is owing to the fact the median raphe of the body lies to the left of the median line, in this region, both above and below. This establishes the left hemorrhoidal area in the center on the left side. For convenience, will give the details of this operation in four stages.

First stage: Select a point upon the skin, one-half inch to left of the anus, and apply an applicator which has been dipped in phenol, to anesthetize the skin and mark the point for the insertion of the needle. When the point has turned white insert into the loose subcutaneous tissue a fine hypodermic needle attached to a half ounce metal syringe loaded with one-half of one per cent. quinine-urea hydrochloride solution. Inject this solution very slowly. At the first indication of pain stop and wait till the pain ceases. Then inject a little more solution, being sure to inject so slowly that you do not blanch the parts. In distending the tissues and producing pressure anesthesia use the one needle point which is indicated by the puncture mark on the white background of the carbolized area, by so doing you avoid your solution running out of a former needle point while injecting at another. After thoroughly distending the parts from this one puncture you find just the area you wish has been distended as the solution from this puncture will not pass the raphe between the hemorrhoids but will distend same. By injecting the solution as directed you have not distended the hemorrhoid but have prolapsed same, and this brings out the line of the anorectal junction, because the hemorrhoid is dark in color while the anal parts are lighter than normal from being distended. It is not necessary to anesthetize the hemorrhoid as it is supplied by the sympathetic nervous system, but it is very necessary to have all solutions and instruments cold and not make any sudden traction. Now pass a sharp ligature carrier threaded with number two ten day chromic catgut, beginning at the junction of the hemorrhoid and the raphe below at the anorectal line, pass deeply, penetrating the deep fascia coming out at the junction of the upper raphe and the hemorrhoid on the level with the anorectal line.

Second stage: Remove the ligature carrier, leaving double ligatures. Place forceps on each end of these ligatures. Grasp the skin with a vulsellum and draw same on the stretch. While thus making traction on the skin, place another vulsellum at the level of the anorectal line, one blade at each exit of the ligatures. This vulsellum is placed for two reasons, first, in case of accidental cutting of the ligature in the removal

of the hemorrhoid you have your land-marks for placing another ligature, and second, a branch of the inferior hemorrhoidal artery enters the parts through this tissue. After placing the two vulsellum forceps, try the ligatures to make sure that they have not been caught within the grasp of the vulsellum. If free, cut the skin up to ligature.

Third stage: Grasp the hemorrhoid with sponge holders and make traction slowly and steadily outward and downward until normal mucosa is exposed. Now tie each ligature separately around the base of the hemorrhoid. In making the first knot, do so very slowly so as not to hurt the patient, as the parts have not been anesthetized and any undue sudden pressure or traction gives pain. After making the first tie, the others can be made more rapidly as the first knot produced pressure anesthesia.

Fourth stage: Cut away the hemorrhoid just external to the ligature. Remove the vulsellum. If there is spurting from the inferior hemorrhoidal artery ligate same with plain catgut. Let the stump of the hemorrhoid free. This stump is anchored by the ligature to the deep fascia and cannot retract within the sphincters, but remains at their junction just above the external sphincter. There is just enough stretch on the skin to bring the two edges together, at the same time not interfering with post-operative oozing, which is very essential, as any interference with oozing produces oedema of the skin and post-operative tags.

Repeat the procedure by passing through the four stages with each hemorrhoid on the right side, except when dealing with hemorrhoids of the first and second degree, in which case the two right hemorrhoidal areas should be removed at one time, taking away twice the amount of tissue on the right as you did on the left side. It is always advisable to operate on both sides in each and every case of hemorroids to avoid future trouble.

After completing the operation, place a perineal gauze dressing smeared well with petrolatum. Have a binder adjusted tightly to the patient, extending from the pubes to above the ensiform, and place a perineal band of muslin attached behind, divided to perineum and attached laterally in front, drawn tightly. Leave instructions that the binder or dressings are not to be disturbed. The patient is to have six ounces of water every four hours to be sipped every fifteen minutes, at the rate of one and a half ounces an hour. The reason for these instructions is that by constant sipping we keep up peristalsis, and the binder being tight, gas passes below and when gas passes, the urine is voided freely.

Next morning dress the parts, using no solutions. Replace fresh dressings smeared well with petrolatum. See that gas and urine have passed. If so, have the sipping of water stopped and give four ounces of beef broth and four ounces of pineapple juice every four hours, the broth to be drunk hot and the pineapple juice to be sipped every fifteen minutes at the rate of an ounce an hour. This gives the patient forty-eight ounces of liquid every twenty-four hours, with nourishment enough to carry him. Change dressings once every twenty-four hours for the next four days. On the fifth day, give a luke-warm plain enema, instruct the patient to take a tub bath at night, and dress the parts using a small amount of thymol iodide, as a dusting powder, on gauze.

Put him on a full diet and give one grain of phenol-phthalein night and morning till the bowels move freely, then give one grain at night and gradually decrease the amount. Have the patient resume his occupation as quickly as possible after the fifth day. Instruct him to report twice a week for observation, during the next six weeks, at which time note the progress of healing, and do not dismiss the case until the parts have healed and you can pass, without injury, a seven-eighth inch anal dilator.

In conclusion, I will say a case proceeds to recovery with practically no discomfort, provided, we handle our operative technic in such a way as not to hurt our patient, receive that patient's co-operation in sipping liquids, supporting perineum, and going about his business; by so doing, our patient is relieved *pleasantly*. If while following the operative technic we attack and remove only those tissues necessary to give relief, and by the use of the mechanical irritation of quinine-urea hydrochloride we bring the products of repair to the parts, the healing will proceed *quickly*. Not having interferred with the higher centers, and by the use of quinine-urea hydrochloride we produce a natural barrier, we can say we relieved our patient *safely*. This makes me believe we come near fulfilling the Golden Rule of Surgery by "relieving our patient—pleasantly, quickly and safely" in a class of cases, composed of a large percentage of patients that would generally be considered the age for safe surgical intervention because the average age for the development of first degree hmorrhoids is about forty years, and the time necessary for the evolution from first degree hemorrhoids to third degree is generally ten years, which brings the average age for the beginning of the third degree hemorrhoidal period at fifty. As unrelieved pathology persists during life, this necessitates our dealing with a class of patients the large percentage of whom are in the fifth to the eighth decade of life.

SOME REMARKS ON LARYNGEAL AFFECTIONS.*

By H. B. GRAHAM, M. D., San Francisco.

In no branch of medicine is there exhibited more neglect on the part of the medical men than in diseases of the larynx. A hoarseness may go on for months even under the eyes of a specialist and the patient told he has some insignificant affection that will soon pass off without even an examination being made. The cause of this is easily seen when one watches the methods pursued in the education of the average medical student. I believe that no student should be allowed to leave college without a thorough familiarity with

* Read before the Pacific Coast Oto-Ophthalmological Society at Spokane, Wash., June 18, 1917.

the method of examination of the larynx and that he should be so familiar with the normal picture as to be able to pick the abnormal and see that the early lesion is placed in the hands of the specialist. Interns should be compelled to examine the larynx of each one of their patients as a routine just as they do the urine, and then we would not have the disasters we see among people who have honestly sought the advice among what they have been told are competent physicians. He is taught the histology, anatomy, symptomatology of the subject fairly well, but the technic of examination he invariably misses and this is the most important element.

Histologically the classification of intra laryngeal growths is very simple; we do not get the complexity of tumors that we find in other parts of the body. Tuberculomata, syphilitic growths, carcinomata, fibromata and papillomata about comprise the list as the myxomata, which have been described, do not invade the larynx; we simply have a myxomatous degeneration of the fibromata; cysts and fatty tumors are so rare that they become curiosities. Singer's nodes are histologically fibromata. Histologically the fibromata and papillomata are easy to distinguish if the specimen has been fortunately obtained, the fibroma being a tumor with a connective tissue base covered by a thin layer of regularly placed epithelial cells and the papillomata being the reverse, a mass of epithelial cells with a small core of connective tissue. Our difficulty in diagnosis arises when we have a section through a papilloma not containing any of the connective tissue, so that we do not get the peculiarly regular line of demarcation between the two elements which is such a valuable help in eliminating carcinoma.

Personally I have had difficulty in making histological diagnosis in carcinoma in only one out of five cases; here there was a positive Wassermann with a pretty clear history of a luetic infection. The growth was not affected, however, by strenuous anti-luetic treatment and after a third attempt a definite histological diagnosis was made and a laryngectomy done. For our surgical purpose the malignant growths are divided into glandular and squamous celled. The former dip into the underlying connective tissue undermining the normal appearing mucous membrane so that the growth is far more extensive than appears to the eye. These growths have a tendency to invade the lymphatics early so that by the time a diagnosis is made the growth has become more extensive and requires a radical operation. Although Semon and Gluck fifteen years ago gave their warnings regarding these growths, appealing to the medical profession to institute a thorough investigation of all cases of hoarseness lasting over a couple of weeks time, yet the profession is still guilty of lulling these cases into inactivity with their assurances that there is only a slight *ulceration* which will disappear in time and that the specialist is simply over enthusiastic. One such case, regardless of the most frantic efforts on my part, was carried along to a laryngectomy, whereas I saw it and made a clinical diagnosis a year previous when there was but a small circumscribed tumor involving the middle one-third of one cord with no interference in function, an ideal case for a double curette by the indirect method. The squamous-celled carcinomata show a lesser tendency to invade the underlying tissue or to form metastases through the lymphatics. They grow slowly by contact and give a fair chance for a cure by intra-laryngeal methods if taken early. The hanging laryngoscopic method of Killian is extending the application of intra-laryngeal work in this direction. In the majority of cases it is not necessary to make a histological diagnosis of either lues or tuberculosis, the clinical appearance is enough, but Simon has reported three cases of tumor all identical in appearance, one lues, one tuberculosis and the other carcinoma, so that in isolated cases care must be used before a decision is made.

Too much has been said concerning the origin of carcinoma, tuberculosis and luetic growths to need review here, but the fibromata are interesting in that there appears to be two distinct types, one of which is due to an irritative process at the edges of the cords, probably non-tubercular; the other is a modified prolapse of the mucous membrane above or below the cord which is built on a tubercular or luetic base. The patient with the latter condition complains of a persistent hoarseness from which he partially recovers and a year afterward there is discovered a polyp swinging in the glottis or hanging from the inferior surface of the cord, which after removal does not return, the causative process having disappeared. The field is wide open for the discovery of the origin of warts, and thus to that of their sister growth, the papillomata.

The position of the squamous-celled carcinoma is one of the determining factors in its operability. One occupying the middle third of a functioning cord is certainly worth a trial by intra-laryngeal methods either direct or indirect. The position of the fibromata gives us some very interesting phenoma. I have seen them springing from the sinus of Morgagni and dropping down into the glottis so that in phonation the polyp had to be expelled to a position above the cords before speech were possible. Again they may occupy such a position that they occlude the glottis when the patient assumes a reclining position. The patient soon learns in which position he may sleep at all, otherwise he has no inconvenience. Many large polyps have never been suspected during life, having been discovered during autopsy.

As a help in the diagnosis it is well to remember that the posterior half of the larynx is more apt to be the seat of tuberculosis and the anterior two-thirds the seat of all other growths, that the papillomata are peculiar to the young, fibromata to the middle life and carcinomata of later life. Contrary to the teachings of the literature typical early growths have, in my experience, been rather easy to recognize; the cauliflower excrescence occupying the middle third of the cord gives a far different appearance from the smooth, firm sessile

fibroid occupying the same position, or the pendulous polyp springing from the sinus of Morgagni or the multiple papilloma of childhood. It is in the advanced ulcerated tumor occupying the larger part of the larynx on an oedematous base with the inflammation involving the oesophagus and the glands of the neck where I have experienced the greatest difficulty. The Wassermann and tuberculin reactions do not help, as either lues or tuberculosis may be present and still we may have a carcinoma. The hanging method offers in these cases a better opportunity to procure a specimen, as a deeper incision may be made than by indirect methods and a piece of the connective tissue must be procured.

The symptomatology is a great help in the diagnosis, as in lues and tuberculosis we have pain, in the others none in the early stages, and at no time do we have pain in the benign tumors. Continued hoarseness is always most pronounced in those affections built upon an inflammatory base. Even in these affections the degree of hoarseness is no indicator of the amount of involvement and we may be astonished at the comparatively good tone that comes from a larynx half eaten away with an ulcerative lesion. The upper part of the larynx is a good substitute; in one case where I had removed both vocal cords and the false cord on one side, I was agreeably surprised the next morning to hear the man carry on a conversation with me with but little difficulty. People with fibromata and papillomata, even though they have a clear voice, tire out very quickly and become hoarse. One of my fibroid cases was a lecturer. He could do very well for about an hour, but the effort to force the polyp through the glottis so as to keep the vocal cords free would then get the better of him and he would have to rest for a half hour or so. Singers with growths on the cords have a tendency to lose control of the voice at times and they are always in terror lest the voice will break.

The treatment in nearly all of these cases is operative. The treatment for syphilis is sufficient for luetic growths, and some tubercular affections are best left alone. Some prefer to treat singers' nodes by the exercises, but I have been so successful in their removal by a double curette that I do not see the necessity of putting the patient through such a long course of tiresome stupid exercises. However, it is not every singer that will trust himself to an operator, no matter how sure he may be of his ability to operate without injuring the cords. His cords may be his only means of making a livelihood, and although the operator knows he can remove a node without in the least damaging the cord, the patient does not know it and one has to have the exercises to fall back on.

Papillomata are probably best left alone, a tracheotomy tube being inserted as occasion demands. The more they are operated the worse they become and they disappear in time as do all warts. I have tried the application of the X-ray through the neck following intralaryngeal operative procedures without effect, the growths reappearing inside of six months to nearly fill the larynx.

The treatment of all other intralaryngeal growths is operative, the type of operation depending upon the character of the growth and the skill of the operator in handling the different instruments. A great stride in advance has been made in out handling of these growths by the introduction of the hanging method of Killian, and I believe that many growths will be removed this way that were formerly done by a laringo-fissure, but its introduction has carried with it a lessening of the skill of the laryngologist in the handling of the indirect method. A little practice and the indirect method can be easily acquired and is so useful in the cautery of tubercular growths and in the incising of cysts and the removal of small tumors that it will repay the operator for his efforts. A major operation becomes a matter of ten minutes in his office under cocaine and a difficult task a simple pleasure. The lack of ability on the part of the specialist to handle these growths by the indirect method is due all over the world to an unwillingness to teach the subject properly. In most instances the physician sits beside the operator, watches the motions he goes through and then goes and does likewise on the poor unsuspecting patient, with a disastrous effect as a rule both to the patient and to the operator. No skill can be acquired without work. One has to train himself by hours of patient practice, operating against the image in the mirror before he instinctively places his instrument in the correct place. This practice can not be acquired on the patient even in the most crowded clinic, but must be on the table with diagrams and paper tubes representing the larynx. The hanging laryngoscope may be used on a cadaver best, as the manikins do not afford enough difficulty. The first difficulty which I have discovered the student encounters in his indirect examinations, is his inability to place the pharyngeal mirror against the uvula and the palate at such an angle as to expose the larynx. His second difficulty is to keep it quiet so as not to cause an active throat reflex, his third is to keep the tongue out of his way. The first two are overcome by practice, the last may be corrected by allowing the patient to hold the tongue out with a piece of gauze while the student depresses the tongue with a spatula. This will give him his first encouragement and he will soon be able to do without one or the other. A little cocain will often help the student out and is a valuable adjunct to the specialist himself when making a close diagnosis. For operative purposes it is my custom to use cocain 20% freely with a syringe and camel's hair brush, as the absorption from the larynx and trachea is practically nil. The patient, however, should not be allowed to swallow during the cocainization. Operators have often complained to me that the epiglottis was frequently in the way of their vision. I have found that this can be remedied by placing the patient on a higher stool than that on which the operator is sitting. Operation by the direct method should be done quickly after anæsthesia is obtained, as the effects soon wear off and one has to stop for more

cocain. I can not urge upon the laryngologist enough the effort to improve his technic in the handling of intralaryngeal cases by means of the indirect method, as the ease with which he works will more than repay him for the effort he puts out, and I would urge that he should not let his enthusiasm for the hanging method interfere with his training for this old established method.

REPORT OF A CASE OF OTITIC MENINGITIS.*

By EDWARD CECIL SEWALL, A. B., M. D.,
San Francisco.
(From the Ear, Nose and Throat Clinic, Stanford University Medical Department.)

While the following case presents a picture that is quite typical of the course of a streptococcus mucosus infection, it is still not out of place to be reminded of the insidious character of that organism. Also although the clinical signs of meningitis were not out of the ordinary there were some interesting facts brought out in the repeated examinations of the spinal fluid. Then, too, it is rather the exception when we cannot trace the pathway of the lesion to the meninges either in the autopsy room or laboratory.

Mr. R. L. D. was brought to Lane Hospital September 16, 1916.

Family history, negative.

Past history: General health good, usual children's diseases. Significant is the history he gave of a purulent discharge from the nose that he had had for years. There was no acute sinus trouble, to his knowledge.

Present illness: Complains of headache and pain in and about the left ear, with swelling about the ear, mastoid and neck. No discharge. Although he worked as motor man up to the day of coming to the hospital he had suffered off and on with that ear for three months. Earache had followed snuffing of water up the nose for his "catarrh." There had been considerable pain, but not the typical otitis with rupture of drum and free discharge of pus. He was not certain that there had been any discharge. Certainly not in any amount. In the last week the headache had been very bad and the boggy red swelling had appeared in the past few days.

There was no vomiting nor chills nor nausea nor dizziness until the morning of the day he came to the hospital. He became very dizzy on that morning on raising up in bed or assuming the upright position, and when he tried to walk he staggered and then only became nauseated and vomited and felt somewhat chilly.

He is habitually constipated, but as his bowels moved slightly the day before he entered the hospital obstipation was not present.

His wife notes that the past few days he has not been as alert mentally as normally.

EXAMINATION.

Head—No abnormalities, except swelling about left ear.

Eyes—Pupils equal, react normally to light and accommodation. Eyes are normal in all respects including the fundi, except for a marked lateral nystagmus to the left with only a trifling rotatory element. This is present on looking straight ahead, and to the right, and much exaggerated upon looking to the left.

Nose—Right side roomy. M. M. somewhat inflamed and covered by thin discharge, whole picture suggestive of sinus disease. Left side deviation of the septum, otherwise same condition as right.

Mouth—Tongue protrudes straight, slightly coated, and there is a slight unpleasant odor to breath. Teeth fairly well preserved and kept. Slight pyorrhea alveolosis.

Naso-Pharynx—Slight amount of muco pus on posterior wall, apparently coming from the ethmoid regions.

Neck—Swollen on left side and sterno-cleido-mastoid muscle stands away and is tense. Otherwise no abnormalities. *There is a slight rigidity of the neck, not accounted for by swelling about mastoid.*

Chest—Well arched, symmetrical, no impairment of percussion noted. Movements equal. Breath sounds clear, except for few fine crackling rales at bases.

Heart—A. C. D. not enlarged. There is a definite systolic murmur, action smooth vigorous, apex 5th space in nipple line.

Abdomen—Soft, full, muscle wall good tone, no tenderness or rigidity.

Extremities—Normal findings.

Reflexes—Knees active and equal, *no Kernig,* no Babinsky, no Oppenheim.

Glands—Negative.

Skin—Clear, hot, dry. *Dermatographia marked.*

Weight—145, before illness 156.

Urine report—Negative.

Ears—Right; drum normal. Left; there is considerable swelling and edema about the mastoid. The sternomastoid is tense and stands away from the head. There is extreme tenderness in front of ear. Patient says that at one time this region was more tender.

External canal swollen in entire circumference, but more marked in upper posterior quadrant.

Region of drum can only be indistinctly seen because of extreme swelling of canal, no details can be made out. Some desquamated epithelium can be seen filling fundus. *There is no discharge,* but a cotton swab introduced into fundus has slight color.

Hearing—Schwabach normal, Weber left, Rinne positive right and negative left. Low whisper right 4/8. Left loud whisper 3".

Spinal puncture made—15 c. c. withdrawn. Well marked increase in pressure. Fluid was slightly hazy, like ground glass.

Examination—Total cells 2980.

Leucocytes 2600.

Nonne + + + +

Noguchi + + + +

Colloidal gold, 0—0—0—1—2—2—0—0—0—0

Sugar reduction, negative.

Examination of this spinal fluid showed the

* Read before the Forty-sixth Annual Meeting of the Medical Society of the State of California, Coronado, April, 1917.

leucocytes to be of the poly-morpho-nuclear type and streptococcus mucosus was demonstrated in the spinal fluid.

Wassermann—Negative.

Blood count—14,000 3:30 P. M. 86% polys. 13% lympho. 1% large mono. To sum up the findings as they appeared on his entrance to the hospital:

Acute mastoid left side three months' duration, with no definite history of discharge, headache constipation, dermatographia, nystagmus toward the affected ear, dizziness, normal fundi, slight stiffness of neck, no Kernig, Bobinsky, or Oppenheim. Mentality good, face drawn and general appearance that of a very sick man. An outspoken purulent meningitis with bacteria in the spinal fluid.

Operation—Patient operated upon at once. Pus was found in the mastoid under pressure. Culture made of this later showed gram positive diplococci.

Diseased bone extended down to the dura overlying the sinus. The dura exposed in all directions widely, making an opening in the bone about 6 cm. in longest diameter. Perfectly healthy normal looking dura was reached in all directions. Over the lateral sinus there was an area of discoloration about 1 cm. in diameter, but nowhere was there any roughening, granulation tissue or such evidence of penetration of the dura.

With sterile needle and syringe the sinus was explored and found to be free from thrombosis. The dura transmitted the pulsations of the brain everywhere and was not otherwise opened.

The operation was now converted into a radical one. The middle ear was found to be full of epithelial debris resembling cholesteatomatous masses.

No plastic was made, but the whole wound was left open and packed lightly with iodoform gauze.

SUBSEQUENT COURSE OF CASE.

Sept. 17, day following operation—The temperature ranged about 103° Rectal, as shown on the accompanying chart. The pulse, however, was slow in proportion to the temperature. Lack of fundus changes and blood-pressure of 145 systolic and 85 diastolic certainly argued against great increase in intra-cranial pressure. As did the fact that removal of the spinal fluid did not increase the pulse rate to any degree.

The spinal fluid was drained again on this day. It showed no more turbidity than on the 16th, the leucocytes were slightly fewer, 2511 as against 2600 per c.m.m. Nonne + + + +, Noguchi + + + +, sugar reduction negative. The leucocytosis was polymorphonuclear type, and the fluid showed the presence of streptococcus mucosus.

The nystagmus was markedly improved but still present on looking toward the affected side. Patient complained of headache, took no nourishment, vomited once before and once during lumbar puncture. The blood count showed an increase in leucocytes 16,800 as against 14,000 the day before.

Sept. 18, second day after operation.

Patient passed fairly comfortable night, temperature again ranged all day about 103° Rectal. Dose of castor oil was given with good result.

Lumbar puncture was again made and 12 c. c. withdrawn. Still under appreciable pressure, but at no time during the illness did the spinal fluid appear faster than by drops, except during tension of vomiting when it spurted. The leucocytes still mostly polymorphonuclear were 1460 to c. m. m., a decided drop from the day before; Nonne + + + +, Noguchi + + + +, sugar reduction negative, and again streptococcus mucosus demonstrated.

In the afternoon it was noticed that the left pupil was larger than the right. Complained of severe pain in back of head. Nystagmus was entirely gone, but there was at times a slight transient diplopia.

Sept. 19, third day after operation.

Condition seemed to be improved, patient felt better, took nourishment, headache not so bad. The Kernig is still negative, 26 c. c., spinal fluid withdrawn. It was about the same in all respects as before, *not more clouded, and the number of cells was much reduced,* 1386 per c. m. m., the poly morphonuclear type predominating.

Temperature at 4 P. M. was 104^6 Rectal, higher than at any previous time, the pulse 96 and respiration 26. The fundi were normal, but left pupil the larger. Mentally clear when spoken to. Still later in the day became somewhat drowsy.

Toward evening began to pluck at bed clothes and went into a mild dilerium. *Blood culture was taken.* Culture in $Caco^3$ broth showed a growth of a gram plus, diplococcus, some in short chains. The organism acidified milk, acidified and coagulated inulin, but produced no change in glucose broth, lactose and saccharose albumin water, dextrin or in mannite. Blood count was 15,940 with 76% polys, 22 lymph, 2 eosin.

Sept. 20, fourth day after operation.

Restless but dozing, more dull mentally, involuntary urine. Left pupil larger and double abducens paresis, fundi normal.

Temperature raised gradually all day till at 9 P. M. it was 105^2 Rectal, pulse 84, respiration 36. Blood pressure sys. 170, Dias 80. Coarse mucous rales at both bases, raises some thick blood-stained sputum.

Spinal puncture made and 26 c. c. spinal fluid drained away, pressure about the same and fluid same as before except the peculiar fact noted from the start that the white cell component was more reduced, 960. Blood count was 15,600 whites.

Sept. 21, fifth day after operation.

Patient in bad condition, pupils dilated, right reacts more promptly than left. Speech difficult, tremor of lips, respiration rapid.

Tension the same on both sides in lower extremities, patellar reflexes equal, not particularly lively, Kernig-maneuver produces some distress, but not definite. Neck rigid, movement painful, somewhat delirious.

2 P. M.

Pupils both dilated and react slightly to light. Left pupil larger than right. Fundi normal.

Beginning pneumonia on right side.

Highest temperature on this day at 4 P. M. was 105[1]° Rectal, pulse 124, respiration 54, blood pressure 170.

Lumbar puncture was made and 38 c. c. drained. It was no more turbid than on the first day, the number of cells had daily decreased until now there were but 860 per c. m. m. Still the polymorphonuclear type predominating, large numbers of streptococci.

Patient died at 7 P. M.

Post mortem examination made by Dr. Ophüls, Sept. 22, 9 A. M.

Strongly built, well nourished man of about 45 years of age. There is a marked rigor moris. Marked cyanosis of face and neck. The pupils equal and moderately dilated; teeth fairly well preserved; well kept. No enlargement of lymph glands; no edema. Behind the left ear is a wound of a recent mastoid operation. The wound is wide open, contains a gauze drain. At the bottom of the wound is a collection of purulent discharge. The dura is exposed over a large distance. The sigmoid sinus is exposed quite a distance at the bottom of the wound. No perforation or necrotic spot in dura. The temporal muscle near the operation wound is somewhat discolored, more or less hemorrhagic. The scalp and skull cap normal. The dura is rather tense. Dark fluid blood in the longitudinal sinus. The pia on right side is markedly congested, rather dry. There are collections of yellowish green coagulated pus in the sub-arachnoid space in several places, especially in the parietal region near the long fissure; at base the meninges are more thickened, somewhat more moist, are more extensively infiltrated with pus, especially near the point of the temporal lobe; especially at the chiasma, sylvian fissure, lower surface of pons and lower surface of cerebellum. In the posterior fossae there is a collection of slightly turbid cerebrospinal fluid. The pia matter over the medulla and upper part of cord is somewhat congested, but not infiltrated with pus. Large venous sinuses at base of skull are normal. Opening in temporal bone measures 6 cm. in largest diameter and peripheral part of the pyramidal portion has been removed to region of the middle ear. The acoustic nerve where it emerges from the foramen is heavily infiltrated with pus. What remains of the pyramidal part of the temporal bone is removed for examination (Dr. Sewall). There is a slight flatness of the convolutions on both sides. The large arteries at base of brain are normal. The lateral ventricles are moderately dilated and filled with turbid fluid containing some flakes of pus. The hypophysis shows slight infiltration of pus on upper surface. Examination of head only permitted. *Diagnosis:* Otitis media, acute. Meningitis, acute.

Microscopical Findings:

Sections of Brain: Show very marked infiltration of the pia mater with polymorphonuclear leucocytes and large phagocytes. There is also much fibrin; cortex underneath is very much congested, otherwise apparently normal.

Smears from wound shows many polymorphonuclear leucocytes, some diplococci and staphylococci.

Smear from meninges shows a great many polymorphonuclear leucocytes and many encapsulated, somewhat lancet-shaped gram plus diplococci in short chains.

Histological examination of the temporal bone showed the following: The semicircular canals

were everywhere found to be free from pus or other evidence of abnormality. This would be in line with the fact that the nystagmus was immediately improved by operation and eventually disappeared. There was nothing found to explain the nystagmus. This must be accounted for on the same lines that we explain the nystagmus is an acute otitis that disappears on incision of the drum. The cochlea showed no purulent involvement and this was borne out by the hearing test. There was, however, an abundance of pus found accompanying the nerve in the internal auditory canal. It is found as far as the modiolus. The post mortem showed pus in quantity in and about the internal auditory meatus. The pus in the internal canal evidently entered from the cerebral side. This shows how it is possible to have the cochlea or other parts of the internal ear involved by extension of a purulent process in the skull.

Although pus was found in the internal auditory canal no connection was found between the purulent process in the middle ear or mastoid and the infection of meninges.

While the spinal fluid can often be taken as an index of the extent of involvement of the meninges the cell count in this case shows how the greatest dependence must be placed upon the clinical picture. Usually the cell count keeps

pace with the progress of the disease. A decrease in the number of cells in the spinal fluid is considered prognostically favorable. The fact that the fluid in the canal can be cut off from that in the cranium and form a poor index of the true condition of the latter is shown by the figures in this case. The initial count showed 2600 cells to the c. m. m. and these were of the polymorphonuclear type. Counts taken on successive days demonstrated a diminution in the number of these cells. The count on the day of death being 860 cells to the c. m. m.

The same condition was present in another case recently observed in the clinic. A cell count taken at the time of the mastoid operation being in this instance 1040 the c. m. m. The counts taken on successive days showing 536, 97, 216, 251, and the patient dying the following day.

Closure of the foramen of Mazendie is given as the probable reason for the lack of participation of the spinal canal to the extent of the cranial meninges. This is borne out by the failure of the Kernig and other spinal signs which presented in both of these cases.

AN INTERESTING OPERATIVE EAR CASE.*

By CULLEN F. WELTY, M. D., San Francisco.

Dr. H. C. Moffitt's Medical Report: The history was negative, except for measles and mumps in childhood. Headaches, a year ago when he commenced wearing glasses. Quite frequent nose bleeds during the summer months in Reno. Very infrequent colds. He seemed a perfectly well man in every way until December he began to have cold, headaches, slight cough and aching of the limbs. He quit work from December 10th until December 23rd. At end of this time, feeling better; but cough continued and he gradually got worse, until the middle of January, the paroxysms were so severe as to make him vomit. On the 20th of January, following a severe coughing spell he vomited, his cough stopped and did not recur. He started to hiccough. This first attack lasted for four days, with occasional short intermissions. Following this time, hiccough and dizziness troubled him until he came here March 9th. On February 22nd, for some reason not apparent, he had a paracentesis of the right ear drum. This was repeated February 29th. There has been a slight discharge from the right ear ever since. Just before he came, on first arising, he felt nauseated and vomited. When I first saw him, he had a slight nystagmus on looking to the right, otherwise, the cranial nerves were perfectly normal. The veins of the eyelids were a little prominent. Arteries a little stiff. A little emphysema of the lungs. Few dry rales on the left lobe, right side. Hiccough involving both sides of the diaphragm. Spleen enlarged a little by percussion. Rather faint abdominal reflex on the left, otherwise normal.

The first days, when seen at St. Luke's, he did reasonably well. Hiccough was controlled by medication. He had dizziness when he would sit up or turn to the right. Nystagmus to the left and right; always moderate in degree. He became morose and restless. At times, just after hiccough attacks would cease, he had a temporary confusion, with inability to speak or understand. At this time, fundus which had been normal on entrance, showed gradual swelling of the disc and edema of the retina, right more marked than left. Slight incoordination of the left hand. No abnormalities in reflexes. Occasionally slight headache. By March 12th, there had been a good deal of increase of headache, with inability and stupor. At this time, choked disc, occasional vomiting; lumbar puncture showed fluid under pressure and this relieved the headache.

All this time various diagnosis had been considered. Apparently, labyrinthian reactions to caloric tests were normal. Slight discharge from the ear contained no definite type or organism. The serous labyrinthitis could not explain all his symptoms, particularly the hiccoughs and peculiar, slight epileptiform seizures following. At this time, would have apparently some pharyngeal contractions and slight irregularity of breathing. Dizziness and nystagmus suggested a cerebellar lesion and various tumors of the cerebral pontain angle were considered. The history suggested the possibility of bronchitis, with secondary brain abscess, but careful examination of the lungs did not show at any time any changes up to this date. It seemed more probable that he had some cerebellar tumor with pressure on the pons accounting for the hiccough and the peculiar epileptiform attacks with pharyngeal and respiratory symptoms. The exaggeration of the symptoms early in March, explained on the basis of a hydrocephalus. Despite the apparent negative ear findings, there was discharge in the right ear and it was thought advisable to explore the mastoid on account of his temperature which had been present right along, though slight in degree, not going beyond 100°. He apparently was better for a few days following operation. A few days after operation, he again developed the same hiccough, dizziness, mental confusion, without more localizing symptoms or signs; it seemed more probable that we were dealing with brain tumor rather than with infection, and yet after explaining matters to the family. it seemed justifiable to investigate the sinus and adjacent dura. Apparently the sinus wall at operation was not entirely normal, but there was no thrombosis.

Right after operation, he became worse, had a steady rise in temperature, pulse and respiration. He developed signs in the right upper lobe; apparently no consolidation, but very diffuse bronchitis with numerous, peculiar, bubbling rales. With this, there was a profuse expectoration partly edema, partly purulent. This was unfortunately not examined.

Ear history:

Following a coughing spell, had pain in the right ear which increased somewhat. This was accompanied by vertigo. On the 22nd of February, had incision of the drum membrane. Follow-

* Read before the Forty-sixth Annual Meeting of the Medical Society of California.

ing this incision of the drum membrane, the symptoms did not wholly abate and had another paracentesis seven days later. Indefinite pain back of the ear and some temperature.

Examination by myself: Right ear, some discharge from this ear. No pain over the tip or on this side of the head. Bulging of the posterior, inferior wall, (which happens very seldom.) Nystagmus to the opposite side and to the same side. Some tinnitus. Hearing good. Tuning fork: Weber to the bad ear; Rinne negative in the bad ear. Seven foot hearing tube positive. Both ears reacted in the normal way to cold water. Facial intact.

My diagnosis: Acute mastoiditis requiring immediate operation.

My reasons for same were as follows:

1st—Nystagmus in the midst of a discharging ear.

2nd—Bulging of the posterior, inferior quadrant, which indicated pus retention.

3rd—Persistent temperature with a discharging ear.

The symptoms that I could not explain and thought were accidental were hiccough; at times, there was a something that simulated an epileptiform seizure. Thought this in some way due to a reflex, or possibly to a brain abscess.

Operative findings rather large, pneumatic mastoid. All cells contained pus, some under pressure. A deep cell well into the petrous portion of the temporal bone and below the bony meatus. (This cell produced the bulging from below, upwards.) The dura of the middle fossa uncovered and healthy. The sinus accidentally uncovered.

The following two days, the patient was much improved. Less vertigo, no pain, less temperature. On the third day was not so well. An increase of temperature; vertigo. Dressings changed. Fourth day, more temperature; vertigo increased. A spell of hiccough and a seizure, simulating epilepsy. At this time, I thought that probably I had injured the sinus at operation and that a nural clot was keeping up the temperature, or that in doing a dressing the patient had become infected. During the time that this was going on, he would have frequent spells of hiccough and an occasional seizure.

There were no signs of meningitis or brain abscess, with the exception of the seizures and the hiccough. Nevertheless, you will note from the temperature chart that two days prior to this, the temperature fell on two successive days to normal or below and again rose to almost 103°. So in the hope of finding something, this second operation was done.

We concluded to explore the sinus for possible infection. This was done on the 24th day of March, twelve days following the first mastoid operation.

Findings: perfectly healthy in every particular. Following this procedure, the temperature increased. All the symptoms increased, with new ones which indicated a very grave prognosis. He grew rapidly worse and died in a few days.

Now the question naturally follows—what was the cause of the man's death?

The bacteriological findings of the pus from the ear by repeated examinations, showed a mixed infection with nothing suggestive.

Blood examinations repeatedly—everything negative.

Lumbar puncture—negative findings The pressure was not materially increased.

Brain abscess a possibility, with a decided leaning to a cerebellar tumor at this time.

At autopsy were found most remarkable scattered, grayish nodules at the cortex about one-half c. m. in diameter. These looked at first like multiple tumors, but were found to be tubercles. There was a secondary involvement wholly of the right lung by miliary tubercles. There was no obvious old focus in the lung. It was difficult even at autopsy to explain the predominant symptoms. They have to be referred to involvement of the cerebellar and pons. Cortical tuberculosis gave no signs. The spread of miliary tuberculosis of the right lung was a terminal event. The ear signs were never prominent and would at no time explain all the dizziness, hiccough, or peculiar respiratory symptoms. The operations on the mastoid and sinus were done chiefly because of the temperature, which could not well be explained by what was found on clinical examination. Internal ear intact; sinus healthy.

While this particular case was hopeless from the very beginning, it illustrates beautifully how careful one must be in the analysis of the entire case as a whole.

During the entire case, Dr. Moffitt would say at various times that he believed there was a new growth in the small brain. I contended on the other side that had he a tumor of the small brain, he should have errors in his pointing, and the nystagmus would be more pronounced and definite. Furthermore, the caloric reactions were always as they should be, and if had a tumor, it must be a brain abscess in the presence of the suppurating ear. However, he had no ear symptoms to indicate the same.

As was shown at autopsy, there were large numbers of miliary tubercles all through the cerebellum and through the entire brain, lungs, the liver, the kidneys, everywhere. In fact, this individual (apparently in perfect health), was riddled with the miliary tubercles.

The brain symptoms that he had, we easily explained. The wonder was that he did not have more and that he lived so long.

COLLOIDAL MASTIC REACTION OF CEREBROSPINAL FLUID.

ERNST ALBRECHT VICTORS, M. D., San Francisco.

Emmanuel [1] has suggested a new spinal fluid reaction in the study of nervous syphilis. Influenced by the high susceptibilities of colloidal gold to the action of certain fluid proteins and extraneous colloids, and the difficulties encumbering the

1. Emmanuel—Berliner Wochenschrift. Vol. 52, no. 30, p. 792.

preparation of a proper gold solution reagent, a simple colloidal reaction is presented.

A Mastic suspension, extensively used by Neisser and Friedman in immune colloid studies, is used as a gold substitute. This Mastic suspension when properly prepared is very sensitive to electrolyte action and is immediately precipitated by sodium chloride. It appears that there exists in normal cerebrospinal fluids a colloid inhibitive to the Mastic precipitating action of salt solution of certain concentration. On the other hand, there appears to be a precipitating antibody colloid in the fluids of syphilitics of brain and chord involvement.

THE TEST.

Stock Mastic Solution: 10 g. of gum Mastic are dissolved in 100 c.c. of absolute alcohol. Filter. This solution keeps indefinitely.

Aqueous Mastic Suspension: 1 c.c. of stock Mastic solution dissolved in 9 c.c. of absolute alcohol. Rapidly insufflate this in 40 c.c. of ordinary distilled water. The rapid addition of Mastic to water is important. If added slowly a thick, turbid emulsion is formed hardly suspectible to electrolyte action. This solution must be freshly prepared.

Salt Solution: 1.25% sodium chloride. 1 c.c. of this will immediately precipitate 1 c.c. of Mastic solution.

Cerebrospinal Fluid: Steel needle may be used. A few red cells do not interfere with the reaction. The fluid will remain unchanged in the ice-chest for a week provided that it be not contaminated.

The Reaction: Set up 5 tubes, placing 1.5 c.c. salt solution in the first tube and 1 c.c. in each of the remaining tubes. Add 0.5 c.c. spinal fluid to tube 1 and after thorough mixing transfer 1 c.c. to tube 2, continuing transfer except that the c.c. from tube 4 is discarded and no fluid enters control tube 5. 1 c.c. of the aqueous Mastic solution is now added to each tube. The spinal fluid quantities in the several tubes will be:

Tube 1—0.25 c.c.
Tube 2—0.125 c.c.
Tube 3—0.062 c.c.
Tube 4—0.031 c.c.
Tube 5—None (control)

The tubes are allowed to remain at room temperature and strongly reacting fluids may be read within a short time. Allow the tubes to stand for 12 hours before making negative readings. In tube 5 there will occur an immediate precipitation of Mastic in dense flakes with a clear supernatant fluid. With strongly reacting fluids a like precipitation takes place in all tubes.

Gradations of reactions may occur where precipitation from tube 4 to tube 1 may take place. An irregularity in reaction may be observed in that precipitation may be skipped and appear in the tube above. Such irregular results are common of colloidal reactions and also observed in the Lange test.

CLINICAL OBSERVATIONS.

Emmanuel reports the findings in 32 cases with a constantly positive reaction in 14 cases of brain and cord syphilis. In 4 of 18 instances of non-syphilitic diseases of the nervous system did a slight reaction occur.

I am presenting several series of cerebrospinal fluid studies in which the Mastic test was done together with the fluid Wassermann, Globulins, Cell count and blood Wassermann, and the Lange Colloidal Gold Test in some instances. A large series of these fluids are from the San Quentin Penitentiary, the majority of them being from non-syphilitic cases and the fluid withdrawn in spinal anesthesia. Certain fluids have been collected from Agnews State Hospital, and the remainder from my private practice.

Normal Fluids: Of 130 fluids withdrawn for spinal anaesthesia from apparently non-syphilitic individuals was the reaction negative, together with the blood and fluid Wassermann in 127 instances. One positive case gave also a weak blood and fluid Wassermann. One case of pulmonary tuberculosis with pleural effusion gave a weak Mastic precipitation. Of the entire series only one case in which it was felt that syphilis could be excluded, did a strong Mastic precipitate occur. (Table I.) Of 7 cases given a definite history of syphilitic infection with a positive blood Wassermann in some instances but without clinical manifestations of nervous involvement, was the fluid Mastic, together with other fluid tests, negative in all instances. (Table VIII.)

Non-Syphilitic Diseases of Nervous System.—In epilepsy, manic depression insanity, dementia precox, disseminated sclerosis, traumatic neurosis, neurasthenia, cerebral arterior-sclerosis and other non-specific conditions were the Mastic and Wassermann reactions constantly negative. A ventricle seepage fluid from a case negative to the usual syphilis tests gave a distinct precipitate. This fluid was turbid with leucocytes which probably affected an electrolyte action. In tuberculous meningitis was a slight precipitate also observed, quite similar to the Colloidal Gold curve. (Table II.) Certain clinically doubtful cases were readily diagnosed seriologically except for a relatively high cell count in some fluids otherwise negative. (Table VII.)

Paresis, Cerebral and Cerebrospinal Syphilis.—Twenty-one of 23 paretic fluids produced a rapid and complete precipitation. One negative fluid was negative also to the blood and fluid Wassermann. It is probable that this was a fluid of the Plaut type. In one case precipitation occurred only in two tubes. (Table III.) In cerebral and cerebrospinal syphilis does the fluid likewise allow a rapid Mastic precipitate. (Tables V and VI.)

Tabes.—Fifteen tabetic fluids reacted actively in all but one instance. In this, precipitation occurred only in the last two tubes. It is of interest to note that most of these cases were under active treatment. (Table IV.)

I am presenting this test with a considerable degree of enthusiasm because it has reacted positively in a large percentage of syphilitic fluids and at times only suggestively in nonsyphilitic fluids. I am also happy to present a test strikingly simple and unencumbered by the necessity of having available elaborate apparatus or demanding faultless

precision in technic. It is my hope to stimulate more frequent spinal fluid observations in the management of syphilitics and I would suggest that a fluid cell count and Mastic test should from time to time be afforded such cases under our care. Such simple tests can be accepted as an index of nervous involvement and should be a part of routine observation.

This test of Emmanuel, as it is here given, has not the delicate differential possibilities of the Lange Gold test. I have purposely not varied the author's technic although certain modifications are suggested whereby its delicacy might be enhanced.

TABLE A.
SCHEME OF REACTIONS.

Tube	C. S. Fluid	Negative	Positive			
			x	xx	xxx	xxxx
1	0.25	0	0	0	0	x x
2	0.125	0	0	0	x	0 x
3	0.062	0	0	x	x	x x
4	0.031	0	x	x	x	x x
5	None	x	x	x	x	x x

TABLE I.
SURGICAL CASES—SPINAL ANESTHESIA.
Negative Specific History and No Clinical Manifestations (San Quentin Pen).

Case	Comment	Bl. Was	Fl. Was	mastic
127 cases	Negative history Fluid removed in spinal anesthesia	Neg	Neg	Neg
29648 (Sq.)	"	xx	x	xxxx
23033 (Sq.)	" (Tuberculosis)	—	Neg	xx
29241 (Sq.)	"	Neg	Neg	xxxx

TABLE II.
NON-SYPHILITIC DISEASES OF NERVOUS SYSTEM.

Case.	Diagnosis.	Bl. Was.	Cells.	Glob.	Gold.	Fl. Was.	Mastic
50889	Cerebral arteriosclerosis	Neg.	None	0	6 / 2	Neg	Neg
52182	Brain Tumor (?) Seepage from ventricle)	Neg	Leucocytosis	—	—	Neg	xxx
8 (Ag)	Alcoholism	—	4	0	—	Neg	Neg
28809 (SQ)	Epilepsy	—	—	—	—	Neg	Neg
28726 (SQ)	Morphinism	—	—	—	—	Neg	Neg
27563 (SQ)	Mental case	—	—	—	—	Neg	Neg
28611 (SQ)	Mental case	—	—	—	—	Neg	Neg
9 (Ag)	Manic depressive	Neg	5	0	—	Neg	Neg
12 (Ag)	Manic depressive	Neg	2	0	—	Neg	Neg
10 (Ag)	Dementia Precox	Neg	1	0	—	Neg	Neg
11 (Ag)	Dementia Precox	Neg	0	0	—	Neg	Neg
13 (Ag)	Dementia Precox	Neg	4	0	—	Neg	Neg
50832	Dis. Sclerosis	Neg	6	x	7 / 2	Neg	Neg
49763	Tub. meningitis	—	285	xxx	5.6 / 4	Neg	xx
51193	Tub. meningitis	—	114	xxx	5.6.7 / 3	Neg	x
51115	Convulsions (?)	—	—	0	—	Neg	Neg
50836	Traumatic Neurosis	—	1	0	—	Neg	Neg
16 (Ag)	Traumatic Neurosis	—	9	x	—	Neg	Neg
52884	Neurasthenia	Neg	2	0	—	Neg	Neg
51970	Neurasthenia	—	2	0	—	Neg	Neg
50722	Neurasthenia	—	0	0	—	Neg	Neg
51746	Hydrocephalus	—	3	0	—	Neg	Neg

TABLE III.
PARESIS.

Case.	Bl. Was.	Cells.	Glob.	Gold.	Fl. Was.	Mastic.
17 (Ag)	Neg	65	xx	—	Neg	Neg
18 (Ag)	xxx	37	xx	—	x	xxxx
19 (Ag)	—	19	xx	—	Neg	xxxx
20 (Ag)	xxx	131	xxx	—	xxx	xxxx
21 (Ag)	xx	18	xx	—	xxx	xxxx
22 (Ag)	xxx	—	—	—	xxx	xxxx
23 (Ag)	xxx	31	xxx	—	xxx	xxxx
24 (Ag)	—	97	xxx	—	x	xxxx
25 (Ag)	xxx	14	xxx	—	xxx	xxxx
26 (Ag)	Neg	25	xxx	—	xxx	xx
51334	Neg	30	x	1.2.3.4.5 / 5	xxx	xxxx
51369	—	64	xx	2.3.4 / 5	xxx	xxxx
51428	—	13	xx	3 / 5	x	xxxx
51492	xxx	82	xxx	1.2.3.6 / 5	xxx	xxxx
51552	xxx	21	x	5 / 5	x	xxxx
27 (Ag)	xxx	16	xxx	1.2.3.4 / 5	Neg	xxxx
32 (Ag)	x	18	—	—	x	xxxx
33 (Ag)	xxx	25	—	—	xxx	xxxx
51800	xx	16	x	—	xxx	xxxx
51876	xxx	—	—	—	xxx	xxxx
52134	xxx	43	x	—	Neg	xxxx
52418	xxx	66	xx	—	xx	xxxx
52525	—	22	xxx	—	xxx	xxxx

TABLE IV.
TABES.

Case	Comment	Bl. Was	Cells	Glob	Gold	Fl. Was	Mastic
27827 (SQ)	Chancre 1914 Salvarsan & Hg Intraspinous Hg	xxx	—	—	1, 2, 3, 4, 5 / 5	xxx	xxxx
51450	—	—	60	xx	3, 4, 5 / 5	xxx	xxxx
52027	—	x	76	xxx	—	x	xx0x
30144 (SQ)	Chancre 1901 Several Swift-Ellis	—	—	—	—	Neg	xxxx
52206	Several Swift-Ellis	—	7	x	—	xxx	xxxx
14 (Ag)	—	—	—	—	—	xx	xx0x
15 (Ag)	"Swift-Ellis"	—	—	—	—	x	xx
Wells (SQ)	Hg intraspinous	—	—	—	—	xxx	xxxx
Love (SQ)	" "	—	—	—	—	xxx	xxxx
51491	—	x	28	0	—	Neg	xxx
52252	Neg. history Sluggish pupils + Romb. — knee	Neg	32	xxx	3, 4 / 4	xx	xxxx
30144	Chancre 1901 Swift-Ellis	—	—	—	—	Neg	xxxx
30238 (SQ)	Chancre 1890 Hot Springs, Rubs, Hg intravenous	—	—	—	—	xx	xxxx
52518	—	—	76	xxx	—	x	xxxx
53501	—	x	53	x	—	xx	xxxx

TABLE V.
CEREBRAL SYPHILIS.

Case	Comment	Bl. Was	Cells	Glob	Fl. Was	Mastic
50837	Gumma (?)	xxx	2	0	Neg	xx0x
51286	—	—	14	x	x	xxxx
52855	—	—	164	0	xxx	xxxx

TABLE VI.
CEREBROSPINAL SYPHILIS.

Case	Comment	Bl. Was	Cells	Glob	Fl. Was	Mastic
51030	—	xxx	210	xxx	xxx	xxxx
51292	—	xx	46	x	x	xxxx
51781	—	xxx	600	xx	xxx	xxxx
34 (SQ)	—	xxx	—	—	xxx	xxxx

TABLE VII
DOUBTFUL AND UNDIAGNOSED CASES.

Case	Comment	Bl. Was	Cells	Glob	Gold	Fl. Was	Mastic
27 (Ag)	Paresis (?)	Neg	7	0	—	Neg	Neg
28 (Ag)	Paresis (?)	—	4	0	—	Neg	Neg
29 (Ag)	Paresis (?) sluggish pupil	—	1	0	—	Neg	Neg
30 (Ag)	Paresis (?)	Neg	18	x	—	Neg	Neg
31 (Ag)	Paresis (?) confused and talkative	Neg	23	x	—	Neg	Neg
50842	Congenital lues (?) Blindness	Neg	4	0	7, 8 / 3	Neg	Neg
51052	Tabes (?)	Neg	10	xx	4 / 3	Neg	xxx
51127	No diagnosis	—	26	xxx	6 / 3	Neg	Neg
51318	No diagnosis	—	184	0	—	xx	Neg
52107	Tabes (?) + history pupils	Neg	18	0	—	Neg	xxxx

TABLE VIII.
CASES WITH DEFINITE HISTORY OF INFECTION. NEGATIVE FLUID.

Case	Comment	Bl. Was	Cells	Glob	Fl. Was	Mastic
51137	30 years ago (chancre, throat, rash) Rigorous Hg therapy No clinical evidences	Neg	6	0	Neg	Neg
29903 (SQ)	Chancre 1916 Rash Hg intravenous	—	—	—	Neg	Neg
29304 (SQ)	Chancre 1912	—	—	—	Neg	Neg
51824	Chancre 1915 Was. xxx Meningitis in secondaries. Headaches now. Reflexes OK	Neg	3	0	Neg	Neg
51407	Chancre 1900 Local treatment only	xxx	4	0	Neg	Neg
52228	Chancre 20 years Previous Was. pos. Joints	Neg	0	0	Neg	Neg
52714	Iritis—previous Was pos.	xx	11	x	Neg	Neg

TABLE IX.
COMPARATIVE FINDINGS IN PARESIS AND TABES.

	Bl. Was	Cells	Glob	Fl. Was	Mastic
Paresis—(Series of 23 cases)	82%	13 — 40 av.	79%	83%	91%
	Positive	131	Positive	Positive	Positive
Tabes—(Series of 15 cases)	20%	7 — 48 av.	59%	80%	93%
	Positive	76	Positive	Positive	Positive

THE CARE OF THE FUNCTIONING BREAST.*

FRANK C. AINLEY, B. S., M. D., F. A. C. S.,
Los Angeles, California.

It is generally admitted that the natural food for the human infant is human milk, that breast fed babies are more likely to live than the artificially fed, and that as a class they are healthier, more vigorous, and more resistant.

Few appreciate, however, how much greater the mortality is in artificially fed than in breast fed infants. Statistics show that 75 to 90 per cent. of all deaths during the first year are in artificially fed children. The younger the baby the higher the mortality. About one half of all deaths under one year occur in the first two months of life.

The mortality of babies below one year, is for exclusively breast fed 6.98 per cent., for those brought up on a mixture of breast milk and artificial food 9.87 per cent., for those fed artificially 19.75 per cent. This means that 13 out of every hundred of these babies die, during the first year, for the lack of maternal nursing.

The responsibility for these deaths lies too frequently with the doctor. The main reason why women do not nurse their babies, is that they do not understand its importance, and this to a considerable extent, is due to the fact that the doctor does not give proper instructions and careful supervision of details. The best artificial food is never equal to good mother's milk.

It is said that in Greenland and among the Esquimos, artificial feeding is practically unknown, and that in Japan breast feeding is the rule. In other countries the proportion of breast fed babies is much smaller. Among dispensary patients and those of the tenement districts of American cities, it is estimated that 60 to 80 per cent. of the women attempt to nurse their children. Among the so called higher class seen in private practice, statistics available would indicate a very much lower percentage.

Dr. L. Emmett Holt, in his text book, is responsible for the following statement:

"Among the well-to-do classes in New York and the suburbs, of those who have earnestly and intelligently attempted to nurse, not more than 25 per cent., in my experience, have been able to continue satisfactorily for as long as three months. An intellectual city mother who is able to nurse her child successfully for the entire first year is almost a phenomenon. Among the poorer classes in our cities a marked decline in nursing ability is also seen, although not yet to the same degree as in the higher social scale."

Unfortunately, in the text books of our foremost American obstetrical teachers, a similar discouraging attitude is assumed.

I have always been much impressed by the statements regarding the feeding of infants during the Siege of Paris (1870-1871). It is said that on account of the absence of cow's milk, the women, under trying conditions, were compelled to nurse their babies, and the infant mortality, under a year, fell from 33 to 7 per cent.

It is probably fair to say that all women who do not nurse their babies, fall into one of two classes, those who are unable, and those who are unwilling. Among the working and poorer classes, one must admit that sometimes, for financial reasons, a mother may find it impossible to give herself up to that effort, but it is among the well-to-do mothers that one finds the lowest percentage of breast fed babies.

I have for some time made a special effort to increase the percentage of breast fed babies among my patients, and I am fully convinced that the percentage of those who are truly physically unable is extremely small, and that a very large proportion can do so if they are willing to make the necessary effort.

Preparations for nursing should begin early in pregnancy. A careful physical examination, correction of abnormalities—such as anaemia, constipation, etc., regulation of diet, and the stimulation of normal elimination, especially of the skin, are important. The patient should be assured from the beginning of her ability to nurse her baby satisfactorily. Retracted nipples should be drawn out; and during the last month or longer, the nipples should be scrubbed each night vigorously with castile soap and treated freely with lanolin. Lanolin makes the skin soft and pliable, and in my hands has given much better results than preparations containing alcohol, which though they harden the skin, tend at times, to favor cracking when the baby nurses.

About twelve hours after delivery the child should be put to the breast. Nursings from the beginning should be regular and as thorough as possible. The infrequent schedule commonly recommended for the first few days is wrong, for it is the regular, frequent, thorough stimulation, which assures a good milk supply. The child should nurse every three hours during the day and every four hours during the night from the beginning. The two hour schedule is unnecessarily strenuous on the mother, and the four hour schedule, in my experience, does not sufficiently stimulate the breasts.

After the mother's bowels have moved well, she may be allowed any wholesome food which agrees with her. Green vegetables and acid fruits do not as a rule cause any trouble, and I always allow them freely, until some supposed bad effect is noted. Plenty of wholesome food, and a normal amount of fluids are the essentials.

There is no such thing as complete absence of milk if the baby nurses. The milk always comes in, usually the third to the fifth day, but on one occasion a sufficient milk supply was obtained only after three weeks' effort.

Much harm is frequently done, by meddlesome treatment when the breasts first become engorged. At this time it is only necessary to keep the nipples clean, avoid bruising, see that the breasts are periodically, thoroughly emptied by the baby, or if the baby does not nurse well, by the use of a breast pump, in order that an abundant milk sup-

* Read before the Forty-sixth Annual Meeting of the Medical Society of the State of California, Coronado, April 1917.

ply may be assured. If the breasts are heavy and pendulous, a loose supporting binder is permissible, but pressure bandages do no good, and may be injurious. Massage may lead to bruising and infection, ointments are of very questionable value, salts or active purgatives are contra-indicated, and to cut down the liquid is futile or harmful. I have never seen a hard engorged breast at this stage, lead to abscess formation except in cases where infection and bruising have been introduced by meddlesome attention. Nature has a wonderful power to take care of any excess of milk when given the opportunity unhindered.

When the amount of milk is insufficient it is wise to eliminate all unnecessary wasting of nerve energy, visitors, etc. It is customary also to force liquids and food. Many galactogogues have been recommended, but I doubt that they have much, if any value over good wholesome food. Provided the patient is getting a normal amount of rest, fresh air, food and liquids, the one thing which will do the most to bring up the milk supply is regular, periodic, thorough emptying of the breasts by natural methods if possible, by artificial means if necessary. In other words the child should be made to empty the breast, and when this fails the breast should be pumped after the child has nursed. Stimulation of the breasts after they are empty will make more milk come later. A hungry baby in these cases is a desirable thing, and for this reason it is always, when possible, wise to avoid any artificial feeding, either before or after nursing, and only in exceptional cases is it wise to allow the child to nurse both breasts at one feeding.

One of the most valuable and simplest procedures we have is the weighing before and after nursing. In this way we learn exactly the amount the child is getting. When the amount gained in the usual time is insufficient, the baby may be put back to the breast for a supplementary nursing of a certain number of minutes. This has the advantage of giving the child more food and giving the breasts additional stimulation. If the child is premature, the additional stimulation may be obtained by the use of a breast pump.

The point which is usually overlooked is that moderate hunger is a good thing, for it is the hunger that causes the child to stimulate the breast and automatically increase the food supply. To give artificial food satisfies the hunger, prevents the extra stimulation, and further diminishes the milk supply. Most babies are weaned about two months after the first bottle of artificial food is given, although all of us can cite exceptional cases.

It is commonly taught that at birth a baby's stomach has a capacity of one ounce, but by weighing before and after nursing, we learn that an average sized normal baby will during the second week take anywhere up to six ounces at a feeding. The average amount taken in the second week by a baby, that is gaining well, is about three to three and a half ounces at a feeding. The amount varies at different times of the day, and the total amount varies on different days, but the important thing to remember is that although under certain disturbing conditions the milk supply may be diminished on some days, the supply will always be restored if we persist in the nursing, stick to the schedule, and avoid all artificial food.

I have many times been told of cases in which the milk suddenly completely disappeared and did not return, but I have never seen such a case.

When a baby is on a three-hour schedule, a so called "matinee bottle" should not be given, the breasts require the stimulation in order to maintain the supply.

Many obstetricians advise cutting out one or two night-feedings as early as the child will sleep past them. This is a mistake, although it is desirable that the patient have unbroken sleep when possible, and some babies will sleep well all night. I find that the milk supply is almost always materially diminished a very few weeks after omitting one of the night nursings, and for this reason I urge all of my patients to continue the four hour schedule during the night until at least the end of the fourth month.

In my practice, colic is an unusual condition, and as a rule by weighing the baby before and after nursing we find the cause for crying. A breast fed baby that is gaining four or more ounces a week and whose bowels are moving one or more times daily rarely has a severe illness, and provided the bowels move once a day or oftener, the color and consistency or the presence of mucus or curds, is of little importance.

The routine analysis of a single specimen of mother's milk is of practically no value and I have long since ceased making these examinations.

Contra-indications to nursing in a woman who has borne a healthy child, are relatively few. Those generally recognized, are Acute Pulmonary Tuberculosis, Healed Tuberculosis, Insanity, Epilepsy, certain chronic wasting diseases, severe haemorrhages, and Chronic Nephritis.

The Syphilitic mother should be given treatment and should be compelled to nurse her child, as both the patient and infant in this way profit by the treatment.

In cases of Eclampsia, after the patient has recovered from the acute attack and elimination has been thoroughly established, it is my rule to have the patient nurse the baby, and I have not seen bad results. It is, however, important to establish the elimination thoroughly before putting the child to the breast.

Although a definite indication may arise for weaning a baby, such as Lactational Psychosis, Acute Hyper-thyroidism, Acute Miliary Tuberculosis, or other relatively rare conditions, it is quite common to find that babies have been weaned during the early months quite unnecessarily, or for very slight causes, such as crying, constipation, etc.

Menstruation is not sufficient cause for weaning a baby, slight changes are produced in the milk particularly a dimunition in the amount, but contrary to common belief the greater majority of women normally begin menstruating during lactation. I have always urged my patients to continue nursing and have not seen serious bad effects. It

is a mistake to give a temporary supplementary bottle.

Tonsilitis, acute colds, and the usual infectious diseases, are not as a rule indications for weaning the infant, because the infant through the milk from the infected mother receives anti-bodies which protect it against the disease.

The nipples should be carefully protected against handling and soiling and they should be cleansed with boric solution before and after each nursing. When fissures appear they should be treated with mild healing antiseptics. The nursing should not be discontinued, although at times a nipple-shield may be used as a temporary relief from the biting of the infant. The breast is rarely emptied so efficiently through the nipple-shield, and its use should be discontinued as soon as possible.

When a lymphangitis develops, the patient should be confined to bed, ice applied constantly to the breast, water forced, and the breast thoroughly emptied at the regular intervals by nursing. To begin treatment early is of the utmost importance. Heat should not be applied and massage is bad. I have never seen a breast abscess develop in a case where the above advice was followed and I have never seen bad effects in an infant from nursing an infected breast treated as above.

To prevent establishment of milk supply or to dry up the supply when it has once become established, it is only necessary to protect the breasts against brusing and contamination, and leave them absolutely alone. It is unnecessary to restrict liquids or give cathartics; pressure binders are unnecessary; heat, massage and ointments are injurious. A loose support may add to the patient's comfort, and the temporary engorgement may justify a few doses of Codein to relieve the pain. The patient should be cautioned against rubbing or bruising the breasts. To massage or pump the breast is dangerous and prolongs the discomfort. If the breasts are protected against bruising and infection, the discomfort will be of short duration, and I have never seen abscess formation where this treatment has been followed absolutely.

To gain some idea of the result obtained I have analyzed 100 consecutive cases, excluding only those cases which dropped out of sight at the end of the puerperium. Most of these cases had returned to their homes in other cities, and all of them were nursing their babies when last seen.

98 nursed three months or longer, and 86 of these were still exclusively breast fed.

89 nursed five months or longer, and 77 of these were still exclusively breast fed.

75 nursed seven months or longer, and 54 of these were still exclusively breast fed.

56 nursed nine months or longer, and 32 of these were still exclusively breast fed.

So far as I am able to learn, two babies died during the first year, one at six and a half months of broncho-pneumonia while being fed exclusively artificially, the other at five months of whooping cough and pneumonia while exclusively breast fed.

It is also interesting to note that the two babies weaned before the end of three months were weaned without my advice.

"United States Life Tablets," 1910.
Morse and Talbot, "Diseases of Nutrition and Infant Feeding," 1915.
L. Emmett Holt, "The Diseases of Infancy and Childhood," 1906.
J. Whitridge Williams, "Obstetrics," 1912.
Edwin Bradford Cragin, "Obstetrics," 1916.
Abraham Jacobe, "The Best Means of Combating Infant Mortality," J. A. M. A., June 8, 1912.

GASTROENTEROSTOMY.*

(100 cases studied postoperatively.)

By C. W. LIPPMAN, M. D., San Francisco.

In watching a series of stomachs two to eight years after operation it has been my impression that the results of gastroenterostomy are poor in a large per cent. of the cases, except in the cases of true pylorostenosis, where the gastroenterostomy acts in a definite drainage capacity.

Originally the wonderful immediate effect of the gastroenterostomy on the pain and other ulcer symptoms was ascribed to drainage but as fluoroscopy came into its own it was noticed that a large part of the food persisted in traveling through the pylorus no matter where the surgeon put the hole in the stomach, and let me say here, that where the surgeon puts his opening is not where the opening stays. Within the last week I had occasion to re-examine two gastroenterostomies, one two years and the other four years old. Both openings were put originally at the most dependent part of the stomach. One has wandered to the right till it empties in spurts with each contraction of the antrum; the other has been drawn up to the vertical part of the greater curvature, food wandering impartially both through the hole, as if it were a drainage pipe, and through the pylorus.

Later the surgeon explained his good results by the regurgitation of alkaline fluid neutralizing the gastric juice. Yet within the last few months the Mayo Clinic reports 11 cases of gastroenterostomy for duodenal ulcer, all of which had anacid stomachs. As a matter of facts, we haven't any idea why gastroenterostomy cures peripyloric ulcer. Finney gets the same results or better with pyloroplastics. If you ask the surgeon why he does a gastroenterostomy, he tries to explain but cannot. He always falls back upon the fact that gastroenterostomies do work. That is correct—but in my experience this immediate good effect is counteracted by a mortality within three months of approximately eight per cent. This figure is for the surgery of a great number of men who have had surgical services for years with large practical experience. This eight per cent. mortality compares very favorably with Coffey's (of Portland) seven per cent. mortality in one hundred cases of his own and Peck's (of Roosevelt Hospital, N. Y.) with eight per cent. in seventy-one cases. Those men, who have only two per cent. mortality—the mortality of accident, work only on selected cases. The cases which I see in clinic are very often moribund at operation. Among the bad results of gastroenterostomy in the 100 cases which I analyzed before giving this paper, I had three

* Delivered at S. F. County Medical Society, April, 1917.

recurrent ulcers operated upon—one gastrojejunal and two recurrent in the stomach proper; six cases re-operaed upon for adhesions, five more in which I ascribed the recurrent symptoms of gas and acute discomfort after meals to adhesions, and three cases in which the stoma remained too large or too relaxed. These latter cases suffered from gas and distention immediately after eating. This was easily explained when you watched the bismuth drop through the gastroenterostomy opening, distending the loop of gut, a pint of buttermilk leaving the stomach in less than twenty minutes. One of these cases also had the symptom described elsewhere in the literature of diarrhoea with undigested food appearing in the stools. A finely divided diet relieved him. Another 12 cases were not completely relieved of their symptoms, being unable to take full diet without hyperacidity, pyrosis and gas after eating. This makes 29 cases with poor after-results, 8 fatal cases, 12 cases which I could not follow in this series, leaving 51 cases with good results. Among the good results are 12 cases of pylorostenosis which, separated out, only gives me 39 cases of simple peptic ulcer with good results against 37 cases with poor results. Of the fatal cases, one died of hemorrhage within 12 hours of operation, two of postoperative shock, one of peritonitis and four of pneumonia. These were not all truly chargeable to the operation, as four of the cases were practically moribund at operation. They were, of course, poor subjects for surgery. Incidentally four of the poor results of gastroenterostomy were on cases where the ulcer should have been there but could not be found at operation. I believe with the Mayos that you should not do a gastroenterostomy unless you can show the ulcer to bystanders. My figures of 37 per cent. bad results in 100 cases are uncannily close to such figures in the literature as Clairmont's (von Eiselberg's clinic) of 62 per cent. good results in peripyloric ulcers, and Bourne's (1913) 38 per cent. bad results. Martin and Carroll reported 45 per cent. recurrence of symptoms. No statistics are accurate—each man must judge from his own experience. I feel personally that in every case of ulcer, whether peripyloric or distal from the pylorus, resection and not gastroenterostomy is the method of choice. Wherever possible cut out the ulcer, because if we have complications and have to go back into the belly the stomach is much easier to work with than when it has a gastroenterostomy loop and a mass of adhesions tied to it. Of course, the higher mortality of resection is always mentioned, but, in my experience, resection of simple ulcer in the hands of competent men has had no greater mortality than gastroenterostomy. The real reason for the greater mortality of resection in ulcer is that most surgeons only resect large ulcers suspected of being carcinomatous and, of course, a resection of a large part of the stomach gives a greater mortality than a simple gastroenterostomy operation. Besides, we know from Finney, who does but few gastroenterostomies, that his results are just as good or better than the best claimed by the men who do routine gastroenterostomies. No operation should be a routine: every case should be studied both on the operating table and before it goes on the operating table, and the best method for that particular patient applied. Only in this way will our per cent. of operative results become better. Personally I prefer to see the cutting out of anteriorly situated duodenal ulcers when possible: incising and sewing over posteriorly situated duodenal ulcers; ditto for pyloric ulcers with pyloroplasty when necessary. Ulcers of the lesser curvature when of any size should all be excised, as large ulcers are usually carcinomatous (roughly when about the size of a dollar). I prefer to see a sleeve resection as I have seen no disturbances of motility after sleeve resections whereas in triangular resections I have two cases with delayed emptying. Just why this occurs, no one knows, though there is being done much experimental work along this line, both on humans and animals. The most recent report is that of Stewart and Barber. I see no need for the gastroenterostomy following unless the stomach be too small for function. If there be not enough left for good function I prefer the Polya operation to the other forms of gastroenteric anastomosis.

MINERAL SPRINGS AND SOME OF THEIR INTERNAL USES.

By R. H. HUNT, M. D., Bartlett Springs, California.

From time immemorial the use of mineral waters has stood apart as a definite method of treatment. It has never at any one time had very great support from the medical profession as a whole, yet it has held a unique place as a therapeutic agent. We cannot ignore the fact that medicinal springs have at all times and in all ages enjoyed a large measure of the faith and confidence of mankind and at the present time multitudes every year are finding relief from them. Many have advanced the theory that it was the water only that counted in the results obtained, and that the particular qualities of the spring were negligible: Let full value be freely granted to the watery element. Are all the effects thus accounted for? It is evident that no simple theory is enough to explain the action of the mineral spring waters. Interpretations as to their action have been many and various; with the advance of science the mystic powers of the mineral springs to cast out devils, to eliminate unhealthy humors have been discarded with the theories themselves; the explanation that attributed every property of mineral waters to their ascertained chemical construction has in its turn proved misleading. Their composition is still in part unknown to us; chemical data do not reveal to us the real grouping of the elements. We do not know their influence one upon the other, nor their intimate action in the body. Too much has been claimed for them; they have been used as the main or sole treatment, thereby falling into disrepute, whereas the medicinal spring water today is only an auxiliary or supplemental treatment. To some physicians the recommendation of a mineral water treatment is objectionable be-

cause of the ridiculous and improbable claims set forth for it; but the same may be said of many drugs, many kinds of exercises, foods, etc., yet none of us are so disgusted with these mendacious claims that we fail to recognize the good in them or cease to use them.

If, as experience has shown, the analysis of mineral waters gives too vague an idea of the indications for the water, a better understanding may be obtained by grouping the medicinal springs into classes, not with the idea of making every spring in the class agree as to the therapeutic uses, but to see if we may reasonably expect similarity from waters of the same chemical type. A modification to Haywood's classification of mineral waters gives groups easy to handle—easier than analyses. After more attention is given to this scheme we will be in a position to demand a certain result from a certain spring used in a certain way.

The classification referred to is briefly as follows: A—Thermal. B—Non-thermal. I.—Hypotonic. II.—Isotonic. III.—Hypertonic. 1—Alkaline. 2—Alkaline-saline. 3—Saline. 4—Acid.

It is not feasible to give, in one paper, the indications for all of these types of waters, but I would like to show how this classification could be used in order to obtain them.

A. and B. Enough work has been done on the first group to know the variations that must be expected from hot and cold waters. Thermal waters more readily fluidize the contents of the stomach and intestinal canal than do the cold waters; they augment the secretions and are more rapidly absorbed, but, having a tendency to relax the gastro-intestinal tract, it is not wise to take large amounts for a prolonged period. There is also a tendency to increase the pulse rate and lower the blood pressure so that hot water is contraindicated in diseases of the heart with weak compensation. The cold mineral waters predominate; they have a more tonic effect and in most instances are more agreeable but should not be advised in gastric irritation, colic or dysentery. But, as with warm waters, their use depends upon their strength, whether hypotonic (having a lower osmotic pressure than the blood—having less than 6500 parts per million of mineral matter), or isotonic (between 6500 and 8500 parts per million), or hypertonic (having more than 8500 parts per million). This division is an arbitrary one made to give us some standard by which we can classify the strength of waters, and it must be realized, as in all artificial divisions, that there will be a certain amount of overlapping.

I. The hypotonic waters have a mild gentle effect and may be used where there is need for quantity to assist in elimination more than vigorous chemical action. It gives the best results in acute, subacute and severe cases that would not stand irritation and drastic treatment.

II. The isotonic waters come within the group of heavily mineralized waters and on this account restrict their use to smaller quantities because their action is more vigorous. Here the chemical composition gives the indications.

III. The hypertonic waters are still more heavily mineralized and not used internally to any great extent, many times having to be diluted because of their great strength and disagreeable taste. On account of their high osmotic pressure they act physically, drawing the watery parts from the tissues with which they come in contact, and are among the drastic purgative waters. The chemical composition of a water of this class has less influence because it is so promptly eliminated through the intestines. These waters are contraindicated in acute and subacute conditions and in diseases of the kidneys where irritation has to be guarded against.

Now we should attribute the properties of the above characteristics to the chemical type of the water under consideration.

Take for example 3—Saline. Von Noorden in vol. V of "Diseases of Metabolism and Nutrition" gives us an exposition of the effects of saline waters. In gastric catarrh with subacidity, the use of the saline waters lead to an active and permanent increase in the production of hydrochloric acid. That a remedy should work in cases diametrically opposite is one of the things we sometimes happen on in medicine, for in a case of nervous dyspepsia and hyperacidity decrease in the production and an amelioration of the subjective symptoms were obtained. To quote from von Noorden: "To argue, as is done, that because simple saline waters are beneficial in subacidity therefore they are contraindicated in hyperacidity, is a form of cleverness which rejects facts and opposes the free growth of knowledge."

Where the salinity is marked by the chloride radical an increase in the appetite may be expected, with a general stimulating effect along the whole gastro-intestinal tract increasing the flow of the intestinal fluids, pancreatic juices, bile and gastric juice, these being an aid in the process of digestion. Where the saline water is marked by the sulphate radical a diuretic action results, together with a laxative, cathartic and purgative effect depending upon the concentration of the water. The heavily mineralized waters act by promoting a process of endosmosis, extracting water from the blood and increasing the watery elements of the intestinal secretions. These waters are effective in eliminating from the system the various toxines due to the chronic infections—rheumatism and gout—also in eliminating the chemical poisons, lead, mercury and alcohol.

In this class of mineral waters the contraindications are important from the fact that the harmful results are dangerous to life. All types of saline waters—hot, cold, hypotonic, isotonic, and hypertonic (the concentrated ones in particular)—should be cautiously used, ever bearing in mind the sodium and chlorine ions they always contain, and are contraindicated in all affections of the kidneys, especially types of nephritis where edema is present. Widal and others, from their work with the retention of sodium chloride, have pointed

out the danger. We should therefore be ever watchful and not allow a patient to seek to augment our treatment by visiting a spring where there are saline waters. The epileptic and the highly nervous patients are prone to have trouble when they are ingesting the saline waters, particularly the hypertonic and isotonic waters. In the Jour. A. M. A., Nov. 27, 1909, the papers of Victor C. Vaughn and John H. Musser set forth and discuss at length the retention of sodium chloride. Strong hypertonic saline waters are irritating to the intestinal mucosa and may produce inflammatory changes.

This is a cursory discussion of the effects expected from the saline waters, that is, when a proper regime is established and supervised and not when taken indiscriminately and haphazardly as is done when the health seeker picks a spring without medical advice. In the same way this classification may be used to determine the indications for the other types of waters, 1—Alkaline, 2—Alkaline-saline, 4—Acid (some authorities call this division "Iron" due to the fact that the acid waters contain large amounts of iron which is of more importance than free acids).

I realize the present conservatism of our profession regarding health-spring-lore, but I entertain a little hope that what I have said will arouse an interest in the subject, and I am confident that no open-minded physician can look into it fairly, as he would into any other therapeutic method, without being persuaded that there are possibilities for good which our profession should no longer neglect.

REPORT OF A CASE OF CHARCOT JOINT OF THE SPINE.

By W. H. CAMPBELL, M. D., Santa Barbara.

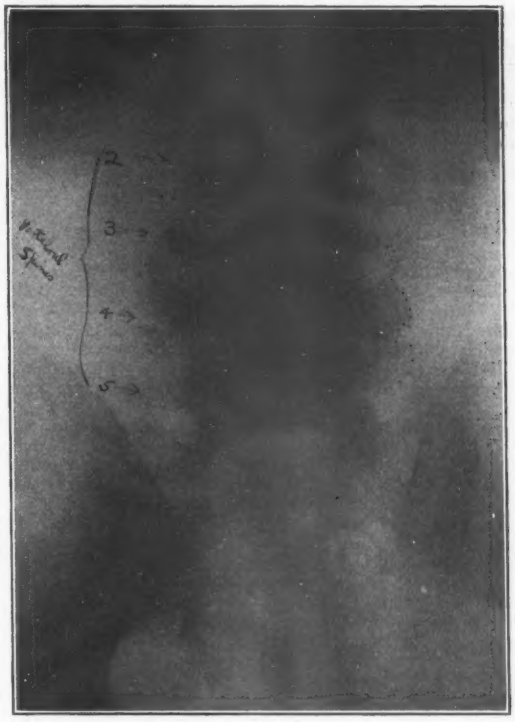
Because of the rarity of this lesion of the spine it would seem to be of some value to report this case. Furthermore this condition may give what are apparently the typical lightning pains of tabes with no symptoms pointing to the local lesion of the spine.

A very good review of the literature on this spinal condition was presented by S. Fosdick Jones in the American Journal of Orthopedic Surgery for February, 1913. The lesion is one that may involve as many as ten vertebrae. Like Charcot joints elsewhere, the process is one of rarefication with secondary proliferation. The more rapid the former change the less there is of the latter, and vice versa. There may be complete destruction of the vertebral bodies, while points of rarefication to one side of the midline may lead to scolioses. The marked exostoses lateral to the spine as seen in this case are typical. The history follows:

The patient, a man aged fifty, with the characteristic symptoms and signs of a fully developed tabes dorsalis, had what was no doubt the initial lesion of syphilis in 1897. He was given local treatment only, as the lesions were multiple and thought to be chancroidal. In 1903 the patient had his first leg pain. For seven years there were attacks of lightning pains of two or three days' duration coming at intervals of about three months. In 1911 the condition was pronounced tabes. The Wassermann reaction was negative and has always been so. A dose of salvarsan given at this time gave freedom from pain until 1914.

In December, 1914, the patient developed what was diagnosed a Charcot joint of the right ankle. Intensive mercury and salvarsan treatment was given for a year, at the end of which time the joint subsided to its condition when last seen. The ankle joint was slightly thickened with 20 per cent. limitation of motion and a good deal of painless crepitation. Pain, except that due to ligament strain, had not been a symptom in this instance. The trouble was one of mechanical disability.

During 1915 the suffering from leg pain was severe. Specific treatment did not relieve this to any extent. The patient came west for the change



of climate, but in spite of further doses of salvarsan and arseno-benzol given here, his pains became worse. They were especially bad on days when he had been up for some time. He used crutches to steady himself when walking. On one occasion it was noticed that the patient, when walking, bent forward. On investigating it was found that he never walked erect and that he could not stand so. A very noticeable kyphos, most prominent at the fourth lumbar spine, was present. When the patient bent his spine in any direction there was clearly audible crepitus and at times sharp pains in the thighs and legs. This was especially so when bending to the left. There was never the slightest pain in the region of the kyphos.

On close questioning it developed that the patient first noticed a "stiffness" in his back in the early autumn of 1915 after a long hospital confinement. It was difficult for him to reach his bed light, the sensation being one of "giving way" in his back.

A back brace relieved nine-tenths of the pain. The patient gained rapidly in weight and strength and after two months looked very well. He walked without his crutches. With no warning whatever he suddenly died, presumably from some cerebral lesion. I was away at the time and the pathological specimen was not obtained. The ac-

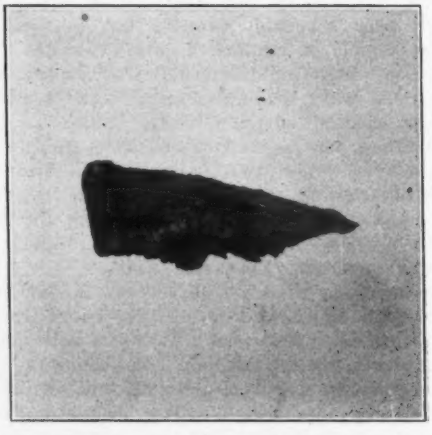
companying radiograph, showing beginning exostoses opposite the second and fifth vertebrae and marked involvement of the second and third, is self-explanatory. A few points have been marked on the margins of the exostoses to more clearly outline them in the print.

FOREIGN BODY LODGED IN LUNG AND REMOVED AFTER ELEVEN YEARS BY BRONCHOSCOPY.*

By PAUL R. WALTERS, Dinuba.

The case which I have for presentation this evening is most interesting. The boy you see here, has been suffering for the past eleven years from a foreign body lodged in the right lung. This young man has been under the care of a great many physicians, with various diagnoses, and finally, after having spent a number of months in a tubercular hospital, a correct diagnosis was made and, with the proper treatment, the foreign body was removed. He is well on the road to a permanent recovery. I am reciting his own statements of the beginning of his trouble:

"About the time I was nine years of age, I was sitting at the dinner table one day, eating soup, and I swallowed a bone, which choked me as it was passing down the throat. There followed a violent attack of coughing, which caused me to vomit. There was some blood in the matter that I vomited, and I thought the bone came up. After this I was troubled with a hacking cough, which came on very shortly after I swallowed this bone, from which I have never been free. There were times when there would be a severe attack of coughing, then I would go for a long period without coughing. My parents consulted our family physician about this cough, who said that I was probably tubercular. I took treatment, but did not get well. I then was taken to Hanford, a nearby town, and my parents consulted a physician there, who gave me electric treatments and medicine for the cough. I was under treatment with this physician for three months continuously, then at various times for a year or more. I went to school, and my condition was about the same. Then I discontinued school and went to the mountains, with some improvement. At this time my parents consulted an osteopath physician in another nearby town, who said that my second vertebra was out of place, but upon several attempts he evidently did not succeed in getting it back, because my cough continued. During this time there were attacks of blood spitting, with the continued cough and expectoration, and a foul breath. I was then taken to San Francisco, and remained in one of the hospitals there for the period of one week, under observation of one of the most prominent physicians in San Francisco. At this time there was some medical convention going on in San Francisco, and my physician had several of these visiting physicians see me with him. At the consultation it was decided by these doctors and my physician in San Francisco that there were two of my ribs out of place, pressing upon my lungs, and my physician in San Francisco said that he thought it would be necessary to operate upon me to remove these ribs. My father was willing to have the operation performed, provided the physician could at least give him a fair prognosis as to my recovery. This, however, the physician would not do, and my father refused to have my ribs removed. There had been a number of X-ray plates made up to this time, but they showed absolutely nothing which would aid in diagnosing my trouble. I next consulted a nose and throat specialist, who cauterized the throat and removed some nasal obstruction, and said that I was suffering from chronic catarrh of the nose and throat. I took some local nose and throat treatments, with very little improvement. Another local physician was then consulted, who gave my father a very bad outlook of my future, stating that I would live but a few months, having lost one lung entirely and half of the other lung. From this physician I next consulted a Chinese herb doctor and took his medicine, with no results. After this I again went into the mountains and then to the seashore. There were periods of improvement during this time. I again attempted school. There were a number of physicians, the names of whom I do not remember, who saw me at various times, all making a diagnosis of tuberculosis of the lungs, and with no favorable outlook of my case. I came under the care of Dr. Walters about the sixth of January, 1915."



This photo is twice as wide and twice as long as the bone.

This is a history of this patient as given in his own words, as I have just recited them.

About the early part of January, 1915, as stated by the patient, he came under my observation.

Age: 17 years.

Occupation: School boy.

Family history: Father, mother, one brother, living and well. No history of malignancy, nephritis, insanity, or tuberculosis.

Personal history: Had the usual diseases of childhood. Perfectly well up to the age of nine years, at which time he was supposed to have swallowed the soup bone, and from that time on up to the present time he was troubled with chronic cough, expectoration, muco-purulent in character, occasional hemorrhages, and sometimes blood-streaked sputum.

His physical development did not differ much from the ordinary boy of his age, except that his frame was somewhat smaller. He did well at school, and was able to do chores about the home besides his studies.

The temperature range during my observation was never above 99.4, most of the time normal.

Pulse ran between 74 and 84.

A physical examination of the chest revealed:

Some diminution—antero-posteriorly—diameter.

No retraction of the inner spaces.

Chest well developed.

Was unable to locate any impairment on percussion or any difference in the breath sounds.

The abdomen was negative.

The urine was negative.

* Paper presented to Tulare County Medical Society, July 3, 1917.

Blood tested practically normal, with a slight increase in leucocytes.

Sputum was negative for T. B. (I examined microscopically at least 15 times.

Bacteriological examination, made in San Francisco once, and three or four times in Fresno, showed there were staphylococci, streptococci and carcine, but at no examination ever made of the sputum, either by myself or the bacteriologist, were we able to discover tubercle bacilli.

The bacteriologist at the tubercular sanitarium also failed to find T. B.

X-rays taken showed some sclerotic changes, probably healed in gland, but no foreign body.

I hesitated before making a diagnosis at this time, until I had consulted one of my colleagues, a nose and throat specialist, in one of the nearby towns, and we decided that this boy was suffering from a **chronic catarrhal** naso pharyngitis and probably **bronchiectasis.** Working along these lines we made frequent local applications, besides blood tonics, milk and egg diet, and fresh air treatment, and autogenous vaccine. The patient held his own and probably gained a little during this time.

During my absence in San Francisco, in the early part of August, 1916, this patient was seized with a profuse hemorrhage. The parents told me later that there must have been at least a pint of blood coughed up. The parents became greatly alarmed, and consulted one of the local physicians, who immediately called in another physician from another town, and upon consultation they decided that the boy had better be sent immediately to a tubercular sanitarium in the mountains. (This sanitarium, I may say, is one of the best tubercular sanitariums in our state.) The boy remained at this tubercular sanitarium for five months, with his mother, during which time he gained twelve pounds, being under the regular T. B. treatment—fresh air, milk and eggs, and receiving autogenous vaccine. He was markedly improved in general health, but the cough did not improve very much. He thinks there was some improvement in the cough, but he still coughed and expectorated. During the time that this young man was confined at the tubercular hospital, I read an article in the California State Medical Journal, by Dr. H. B. Graham, of San Francisco, upon foreign bodies in the respiratory tract, Vol. 14, No. 9, September, 1916. Case No. 3 of Dr. Graham corresponded identically with this young man, which is found on page 356 of this journal, with the exception that Dr. Graham's patient was 46 years of age, whereas my patient was 19 years of age. After reading this article and seeing the strikingly similar conditions present in the patient mentioned by Dr. Graham, I immediately wrote to the medical director of the tubercular hospital, where my patient was confined, and requested that he look up this case in the journal, and suggested that we have stereoscopic X-ray plates made, with the idea of locating the bone which this boy said he had swallowed eleven years ago. These X-ray plates were made, at my suggestion, by one of the X-ray men near the sanitarium, with the result that a doubtful foreign body was located in the right lung, but the X-ray man said it was very doubtful if its removal could be accomplished by bronchoscopy, as it was located very far down in the bronchial tree, corresponding to the eighth rib. I requested, however, that the plates be forwarded to Dr. Chevalier Jackson, at Jefferson Medical College, Philadelphia, and requested Dr. Jackson to go over these plates and advise us what he thought of the suspected foreign body. Dr. Jackson wrote me, stating that there was no doubt in his mind as to the object's being a foreign body, but that he could not guarantee that it was a foreign body, nor would he guarantee that he could successfully remove it, but that if the patient were a member of his own family he certainly would have a bronchoscopy done. He said that the chances of success were about 98% for removal, with no mortality. Having personally seen Dr. Jackson's work and knowing his ability, I was very enthusiastic that my patient should be examined by Dr. Jackson. The parents of my patient and I talked this matter over, and we decided that we should have the patient go to Philadelphia and have Dr. Jackson do a bronchoscopy. The patient arrived in Philadelphia on the 2d day of April, 1917, and a bronchoscopy was performed that same day.

The following is a report of the operation, from the records of the hospital:

Case: No. Fbdy 608. Bone in right bronchus 11 years.

Hospital: Jefferson.

Date: April 2, 1917.

Age: 20 years.

Name: H. E.; address, Dinuba, California.

Referred by: Dr. Paul Walters; address, Dinuba, California.

Anesthetic: Local.

Conditions found on first endoscopy: Firm fibrous stricture with bone immediately below it.

Difficulties and solution: Removal obstructed by proximal fibrous stricture. Copious discharge of blood-stained pus from abscess below foreign body.

Result: Bone removed.

Remarks: Lumen of stricture circular. Cross section of bone angular. Pus ejected around bone at spaces between angles. Surgeon, Chevalier Jackson.

The bone measured ⅞ of an inch long by ⅜ of an inch across. The cross section of the bone was angular.

The patient remained in Philadelphia four days after the bronchoscopy, then returned to his home in California, arriving here the 11th day of April, just nine days after the bone had been removed. The present condition is very good. There is still some cough, with some expectoration, which is due to a drainage from the abscess cavity. The cough is much decreased. An X-ray picture, taken twenty minutes after the bone was removed by Dr. Jackson, showed that the air had already begun to enter the abscess cavity.

I am presenting herewith one of the X-ray pictures taken and a photograph of the bone. The bone which was removed, Dr. Jackson retained for his personal collection, as is his custom in these cases.

This patient is very interesting, because of the failure to locate the bone by the many physicians who went over him. This was very likely due to the lack of interest that we usually take in our patients, in not paying enough attention to their own statements about their illness, as his boy told every physician that he consulted that he had swallowed a bone, and practically every one of us ignored this fact. It is very interesting, secondly, because the bone did not appear on the X-ray plates until they were examined stereoscopically. Of importance is the fact that it is necessary for us to read our medical journals, as I think the fact that I noticed this particular case recorded by Dr. Graham, together with the fact that I remembered the statement of my patient of having swallowed the bone, played a very important part in successfully diagnosing the condition in this boy. And lastly, the ability of Dr. Jackson, with his wonderful technic in getting the foreign body out by bronchoscopy.

SPINAL CORD CHANGES IN COMBINED SCLEROSIS.*

By WALTER F. SCHALLER, M. D., San Francisco.

It is the subacute form of spinal disease usually associated with anemia which I have selected for a study of cord changes and related clinical symptomatology. In our experience this affection is of comparatively frequent occurrence in California, much more often seen than disseminated sclerosis, although not nearly so often as tabes dorsalis. My records show an incidence about equal to that of brain tumor. It is of rare occurrence in France, more frequent in Germany, and in England the condition is, I should judge, as often met with as with us. Bramwell, in a recent article, makes the point that this disease occurs usually after the age of 35 years. In a review of my series of cases I find that in most instances the disease occurred beyond 40 years of age, although in a few cases it occurred in the twenties. In regard to sex I find a preponderance of males—in a total of 23 cases there were observed 16 males and 7 females. Bramwell states that in five cases of subacute combined degeneration seen by him all were in males. The recognition of this disease is accredited to Lichtheim in 1887, although Gowers (1886) in a clinical lecture on ataxic paraplegia evidently dealt with this disease. American authors—Putman (1891), Taylor (1895), Dana (1899), contributed to our knowledge of this affection. In 1900, an important article appeared in Brain by Russell, Batten and Collier. More recently, articles have appeared by Hennenberg in Lewandowsky system, Bramwell, and Cadwallader. This latter author, basing a clinical study on a communication of Dejerine—syndrome of the long radicular fibres of the posterior columns of the cord in subacute combined sclerosis—emphasized the importance in testing the deep sensibility, particularly the bone sensibility, which is so early affected in combined sclerosis, the superficial sensibility remaining intact, as a rule in the first stages.

Etiology: The cord degeneration is supposed to be due to some toxin which is also responsible for the blood picture. Whether this toxin is caused by some buccal or gastro-intestinal infection which Dr. William Hunter long ago suspected was the case in pernicious anemia, is at present undecided. I may state, however, that from the symptomatology, clinical signs and post mortem evidence, there is considerable reason to support this point of view.

Hennenberg and Bramwell hold that the degenerations in the cord are not true primary system degenerations, but are rather the coalescent degenerated areas causing a secondary pseudo system degeneration. These degenerations are, however, loosely systematized and furnish, at least at the beginning of the disease, an interpretation of the lesions by the symptomatology. Bramwell further believes that the underlying associated anemia is much more frequently the pernicious form than is commonly supposed. In support of this view he relates a case in which in the presence of cord symptoms, no marked anemia occurred for three years, the patient eventually succumbing, however, to pernicious anemia. In my series there were ten cases of pernicious anemia (severe anemia in which the blood index was 1. or over), four cases of secondary anemia, and six cases in which the blood picture was negative. In three cases, the blood examination was incomplete. In four autopsy cases I have made sections of the spinal cord at different levels.

The histological picture of the lesions is a primary degeneration of the nerve elements and replacement by neuroglia. When the degeneration is acute, vacuolization also occurs. The occurrence of amylaceous bodies is frequent. Scattered throughout the posterior and lateral columns is a diffuse cellular increase of indeterminate nature. Putman speaks of these cells as granule cells and their presence is apparently due to the rapid degeneration of myelin and impairment of circulation. They are not considered to indicate inflammation; in fact, there are no evidences of a general or local inflammatory process in either the cord tissue proper, blood vessels or meninges. Numerous observers have emphasized the fact that Lissauer's zone is spared in the degenerations. The process has been noted to be more frequent in the dorsal cord than in the lowest portions of the cord, and is quite often absent in the sacral region. Likewise the degenerations diminish in intensity rapidly above the cervical cord.

A brief account of my autopsy cases is as follows:

Case 1. J. R. M. Dispensary No. 927. This case corresponds to the classical type of Russell, Batten and Collier. Patient entered Clinic Feb. 28, 1912, age 47 years, complaining of inability to walk on account of weakness in legs and numbness, especially in the right leg.

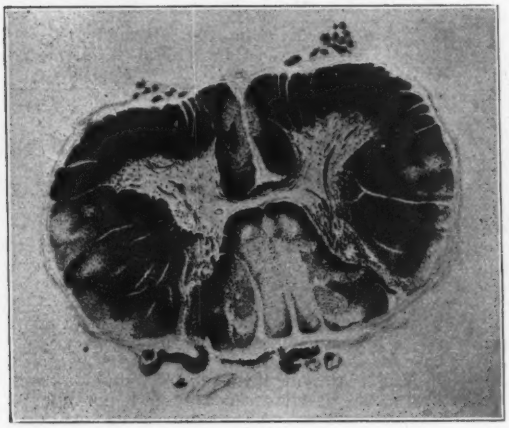
Onset of trouble said to have followed a fall in June, 1911, and began with numbness in legs, especially the right.

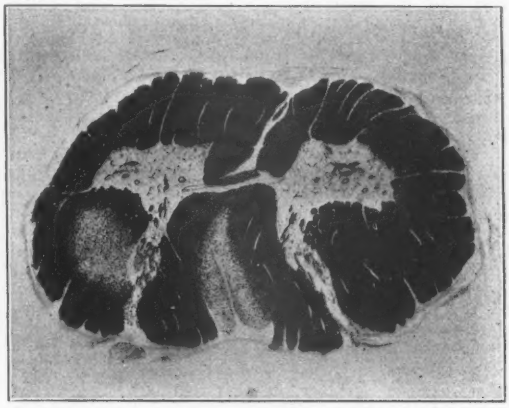
Physical Examination: When seen in hospital, patient was bedridden, suffering from a spastic paraplegia with ataxia. Teeth in poor condition; pain felt on deep palpation over gall-bladder and appendix; knee jerks and ankle jerks lively and hyper-tonus of leg muscles. Babinski and Oppenheim signs positive; pupils equal and react to light and accommodation. Sensibility: In the lower extremities, sensation for touch normal; pain sense somewhat impaired; heat and cold also confused, especially in the outer portion of both legs, but with no definite localization. In the right gluteal region, and the dorsum of the left foot, there are areas of hyper-algesia. Deep sensibility not impaired. (Note in history—no mention of separate tests.) Even at the beginning there appeared to be some impairment of the mentality shown by lack of attention and variation in the account of his illness. The value of the sensibility tests suffer perhaps on this account. As the disease progressed there was mental deterioration, the picture resembling the dementia in paresis and in addition patient was disoriented, suffering with delusions, and hallucinations of sight. Very restless, picked at imaginary objects, talked unintelligently. Loss of sphincter control; edema of legs and marked superficial sensory impairment in same, then loss of tendon reflexes and a picture of flaccid paralysis. Cerebro-spinal fluid for cells negative, globulin slightly increased; Was-

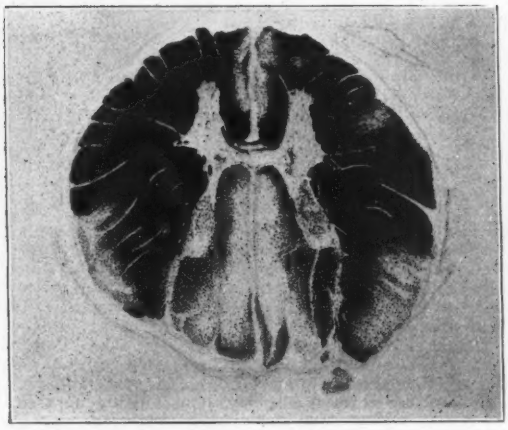
* Read before the forty-sixth annual meeting of the Medical Society of the State of California, Coronado, April, 1917.

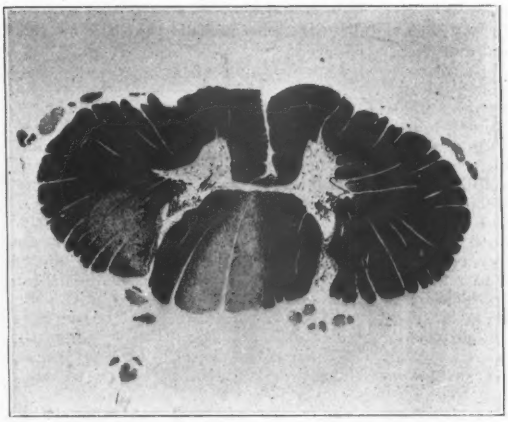
* From the Neurological Clinic, Medical School, Leland Stanford Jr. University.

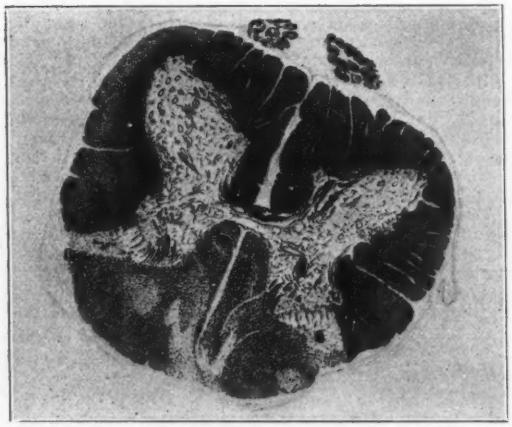
† The camera lucida drawings in this card series were made by my wife, Florence Crum Schaller, to whom I here wish to make acknowledgment.



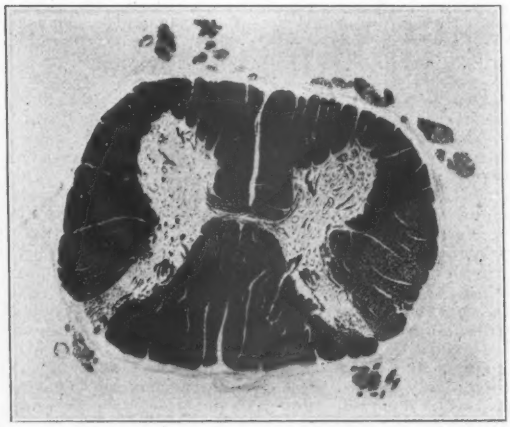








Case No. 1.—J. R. M., Dispensary No. 927, Combined Sclerosis. Weigert Stain of C-vi, D-ii, L-iii Cord.



Case No. 2.—J. K., Dispensary No. 11465-12, Combined Sclerosis. Weigert Stain of C, D, L Cord.

sermann in blood and cerebro-spinal fluid negative. Urine negative. Blood examination:

Date, March 14, 1913; Red cells, 3,520,000; Haemoglobin, 68%; Index, 0.9; Remarks, Poikilocytes few.

Patient died, March 21, 1912, of weakness, respiratory and cardiac failure.

Anatomical Diagnosis: Pernicious anemia, combined sclerosis, cystitis, acute pyelonephritis.

Weigert sections of cord (C-vi D-ii D-xi L-iii no sacral specimen) show marked degeneration in median parts of posterior white columns, most marked in, but not limited to, the median column of Goll. Marked quite irregular degeneration in lateral white columns and marked degeneration on either side of anterior longitudinal fissure. The sparing of the Lissauer zone is a striking feature of the histologic picture and in correlation with the sensory tests is in favor of this tract conducting touch sensibility.

Case 2. J. K. Dispensary No. 11465—12. This case resembles the type described by Gowers in its chronic course. Patient entered Clinic Oct. 16, 1912, age 51 years, complaining of weakness, difficulty in walking and numbness all over the body.

History of chancre at 21 years of age; 13 years ago paraplegia from which he never wholly recovered, but could walk without aid or support. Second attack of paraplegia 3 years ago, third attack 2 years ago. History of alcoholism. Since first attack slight incontinence of anal and vesical sphincters.

Examination: Marked pyorrhea; pus in nasal pharynx and nose. Flaccid paralysis; marked asthenia, mental deterioration evidenced by forgetfulness and lack of attention and emotionalism. Pupils react to light and accommodation; marked horizontal nystagmus both eyes. Patellar and achilles reflexes absent. Babinski, Gordon, Mendel Bechterew, Rossilimo negative. Oppenheim positive on right side (?), Strumpell's sign positive both sides. Sensibility disturbed in the nature of hyper-algesia, thermo-hyperaesthesia over entire trunk and upper extremities. Hyper-aesthesia on posterior part of trunk and upper thigh, left side. Hypo-aesthesia in lower extremities, particularly on posterior aspect. Deep sensibility: Sense of position, location, articular and muscular sense, pressure sense impaired. Ataxia in finger to nose and heel to knee tests.

Laboratory Cerebro-spinal fluid, normal; Wassermann negative, blood and cerebro-spinal fluid. Urine negative.

BLOOD REPORT.

Date	Red Cells	Haemoglobin	Color Index	Remarks
Oct. 18, 1912	2,250,000	60% Sahli	1.1/3	Poikilocytes few
Oct. 23, 1912	2,447,000	58% Sahli 64% Haldain	1.1 Sahli 1.3 Haldain	Anisocytosis

Death—Oct. 31, 1912, from bulbar symptoms ?—respiratory paralysis ?

Anatomical diagnosis: Cirrhosis of liver, severe anemia, combined sclerosis, chronic interstitial nephritis ?, arterio-sclerotic scars in kidneys. Old scars at both apices, emphysema hypostatic pneumonia, general adiposity, marked fatty infiltration of right heart, cholelithiasis.

Weigert and Kultschitzky sections of lumbar, dorsal and cervical cord, medulla, pons and midbrain. The degenerations are comparatively slight as compared with the preceding case, not being traced upwards from the pyramidal decussation. Lissauer's zone is not involved. The principal changes are in Goll's column and a unilateral involvement of the lateral column adjacent to the posterior horn but not reaching the periphery of the cord.

Case 3 (erroneously diagnosed clinically and at autopsy as tabes). G. D. Dispensary No. 10536—12. Patient entered Clinic Sept. 7, 1910, age 48 years, complaining of numbness in both feet and weakness since four months. Patient later complained of nocturnal incontinence of urine and pain in legs, and also of attacks of abdominal pain and diarrhoea, which appeared to be typical gastric crises.

Examination on entrance: Marked tenderness in region of gall-bladder, especially upon the Murphy manoeuver, marked distention in region inferior to the umbilicus. Gait ataxic; positive Romberg, absent patellar and achilles reflexes. The superficial sensibility was not impaired and the stereognostic sense in the hands was normal. The pupils reacted to light. Repeated blood Wassermanns were negative and two analyses of the cerebro-spinal fluid showed no increase in cells or globulin. The second fluid, however, showed a faintly positive Wassermann reaction. Patient gave a history of a chancre several years previously.

The case was diagnosed as tabes and was given anti-syphilitic treatment, followed by temporary improvement. The patellar reflexes were possible to elicit at this period. The course of the disease, however, was progressive. This patient died a suicide from a gunshot wound during an attack of mental aberration in the course of a lobar pneumonia.

Autopsy: Dec. 23, 1912, by Dr. Wm. Ophuls.

Anatomical Diagnosis: Tabes dorsalis—lobar pneumonia and bullet wound in forehead.

Blood Examination: Date, Aug. 22, 1912. White blood cells, 10,200.

White blood cells:

Polymorphonuclear	66%	per	c m m
Lymphocytes	26%	"	"
Large mononuclears	4%	"	"
Eosinophiles	2%	"	"
Basophiles			
Transitionals	2%	"	"

Date, Sept. 13, 1912. White blood cells, 8,200. (Blood examination incomplete.)

Histological examination of the cord: Weigert sections of sacral, lumbar, dorsal and cervical cord and at lower level of medulla showed symmetrical degenerations very slight in sacral region and limited to the lateral columns, and more intense in upper lumbar, dorsal and cervical regions. In the posterior columns the column of Goll and adjacent Burdach column are constantly affected. The Lissauer tract is slightly, if at all degenerated.

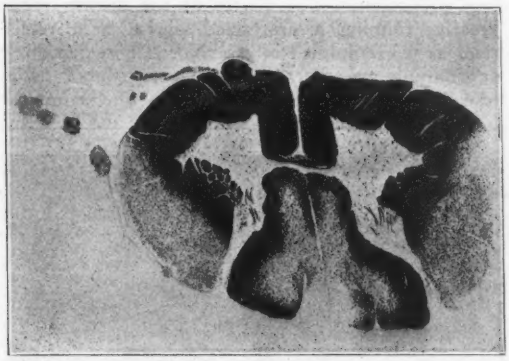
Case 4. M. S. Private records No. 236; age 49 years. Entered St. Luke's Hospital, San Francisco, Aug. 3, 1914. (History obtained from hospital records. Case not examined personally.) Duration of present illness 1½ years. Complaint: General weakness, periods of paresthesias, loss of appetite and drowsiness. Previous history of constipation and diarrhoea and an attack of jaundice; 16 years ago an attack of paraplegia lasting one day. Denies syphilis.

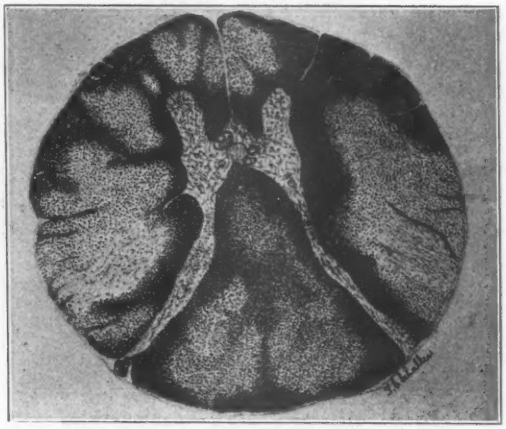
Physical examination: Anemic looking. Liver tender over gall-bladder. Lively tendon reflexes; ankle, patellar clonus, Babinski and Oppenheim present. Anesthesia below 10th, 11th dorsal. Mental state: Very complaining and irritable and lack of apprehension. X-ray findings denote probable malignancy of pyloric end of stomach.

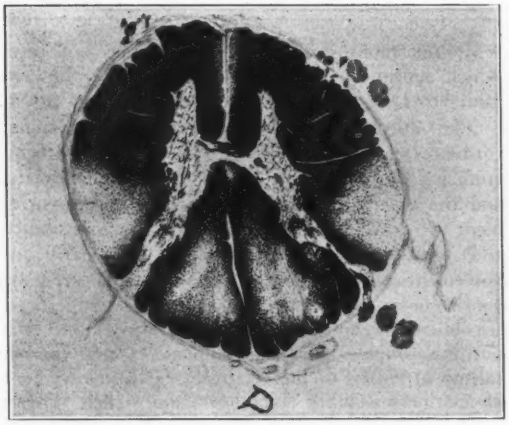
Probable diagnoses: Metastatic spinal tumor at about 9th, 10th, 11th dorsal. Transverse myelitis.

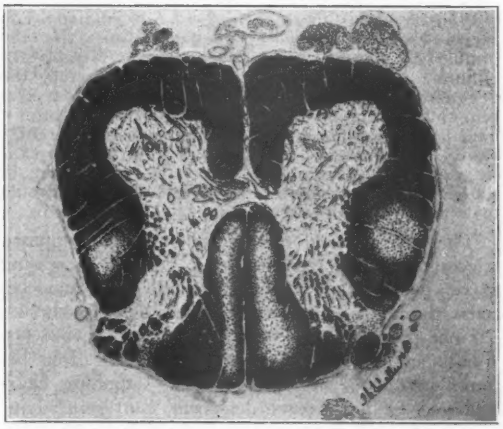
BLOOD REPORT.

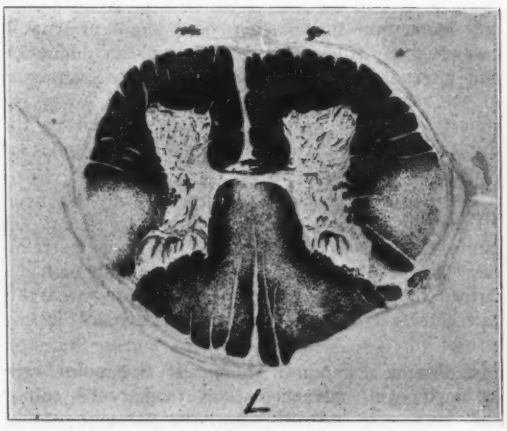
Date	Red Cells	Haemoglobin	Color Index	Remarks
Aug. 5, 1914.	1,500,000	35%	1.1	Anisocytosis—Poikilocytes
Aug. 13, 1914.	1,400,000	35%	1.2	
Aug. 15, 1914.	1,850,000	44%	1.2	Transfusion of blood, 16 min. duration
Aug. 16, 1914.	3,000,000	60%	1.0	
Aug. 17, 1914.	2,400,000	65%	1.3	
Aug. 21, 1914.	2,400,000	60%	1.2	
Aug. 28, 1914.	2,900,000	50%	1.3	



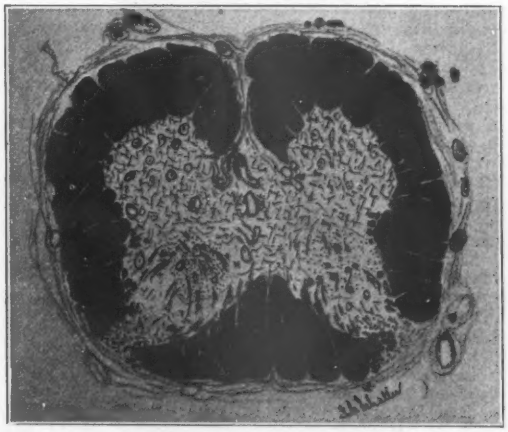








Case No. 3.—G. D., Dispensary No. 10536-12, Combined Sclerosis. Weigert Stain of C, D, L Cord.



Case No. 4.—M. S., Private Records No. 236, Combined Sclerosis. Weigert Stain of D-xii, L-iv, S-ii Cord.

Gait in Combined Sclerosis. Personal Case.

Patient died Sept. 3, 1914.

An incomplete autopsy was done, the lower portion of the cord only being removed.

Weigert stains from D-xii L-iv S-ii studied. The sacral sections show no degeneration. In the lumbar cord the principal degeneration is in Goll's column. The dorsal cord is greatly affected, the degenerations not being limited to any fiber system in the lateral and anterior white columns. The Lissauer zone in the lumbar region apparently shows a thinning of the fibers, but in other localities seems unaffected. The great destruction in the dorsal region assumes the severity comparable to a transverse myelitis.

The chief clinical features of subacute combined sclerosis will be seen to be a gradual increasing ataxic paraplegia, which later, however, may become flaccid, usually accompanied by paresthesias, but not pain. There is frequently at first, but not always an associated anemia which later often becomes pernicious in type. Mental symptoms characterized by progressive dementia, confusion, delusions and hallucinations, may develop as the disease progresses. The course of the disease varies greatly, running a protracted course with remissions as is exemplified in case No. 2, here reported; or running a rather rapid subacute course, as in case No. 1, in which the duration of the disease was nine months only. I have at present cases which appear to be arrested or improved. In general, however, I believe the prognosis to be grave.

Gait in Combined Sclerosis. (After Cruzon.)

Tibial Phenomenon of Strumpell.

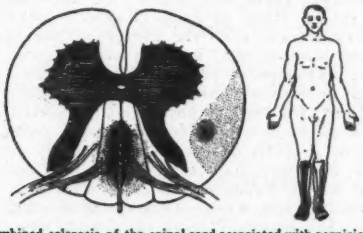
The objective symptoms referable to the spinal cord are seen to be a combination of those arising from lesions of both the lateral or pyramidal tracts, and the posterior columns. In this latter involvement we have disturbances of the deep sensibility and probable consequent ataxia. The early involvement of the bone sensibility emphasized by Cadwallader has been mentioned. The superficial sensibility is slightly, if at all, affected until the terminal stages. Dejerine emphasizes this fact in calling attention to the relatively early involvement of tactile sensibility in tabes from which disease combined sclerosis must in certain cases be differentiated (combined tabes). The motor symptoms are evidenced by weakness, increased muscle tonus, lively tendon reflexes and pathologic skin reflexes amongst which the Babinski, Oppenheim and Gordon may be mentioned. An important reflex, the tibial phenomenon of Strumpell which may be of almost pathognomonic signification, was alone present in case No. 2. This reflex consists of an adduction and internal rotation of the foot, due to overaction of the tibialis anticus muscle when the lower extremity is raised against resistance applied to the thigh, the patient lying in the supine position (see photograph).

A peculiar gait has been described by Crouzon (Thesis of Paris), called by him "trainment des jambes." This is a dragging of the lower extremities, somewhat similar to the hysterical gait described by Todd. One clinical case presented this gait but it is not of frequent occurrence in my series.

From the differential diagnostic standpoint even in fairly well advanced cases tabes, cord tumor and transverse myelitis must be thought of, as illustrated in the foregoing case histories. The condition most frequently confused, however, with subacute combined sclerosis is disseminated scle-

rosis. Bramwell dwells particularly on the points of difference between these two diseases. The diagnosis of combined sclerosis is particularly difficult in the early cases not associated with anemia. Such cases may easily be confused with a neurasthenic state on account of the paresthesias, lively inferior tendon reflexes, weakness, and the frequent association of gastro-intestinal symptoms. The following is an illustrative case in which combined sclerosis is strongly suspected.

A. W. Male, age 55 years, with complaint of several years' duration of "stomach trouble" and "heartburn." More recently patient has complained of nervousness and has also noticed a weakness and unsteadiness on feet and a peculiar tingling in the feet, hands and over entire body. His former physician had noted an increase in activity of the lower tendon reflexes which previously had been of normal intensity. The neurological examination, which included a cerebro-spinal fluid analysis and Wassermann tests, proved negative, with the exception of exceedingly lively tendon reflexes and a possible diminution in the bone sensibility in the lower extremities. The blood examination showed no anemia.



In combined sclerosis of the spinal cord associated with pernicious anemia the degeneration of the posterior columns is peculiar in that it begins in the more medianly situated fibers, that is to say, in the long fibers of the posterior columns, or Goll's columns, and in the parts adjacent to Burdach's columns. Consequently, in the early stages, deep sensation alone is disturbed, more particularly bone sensation and the sense of muscular position.

Diagram showing degeneration of the long fibers of posterior columns and disturbance of bone sensation. (After Cadwallader.)

CONCLUSIONS.

From the foregoing spinal cord examinations and from case records, the following points seem worthy of especial mention:

1. The cord changes in combined sclerosis are pseudo-system degenerations of toxic type. These degenerations in the posterior columns of the cord affect more particularly Goll's column and the adjacent portion of Burdach's, column sparing Lissauer's zone and the root entry zone. This localization explains the early involvement of the deep sensibility and conservation of the superficial sensibility.

2. With characteristic cord symptoms a pronounced anemia may not be present. In the absence of a low red blood count and low haemoglobin—an index above 1. is suggestive of a beginning pernicious anemia.

3. A focal infection is frequently found either in the buccal cavity or the gastro-intestinal tract.

Book Reviews

The Surgical Clinics of Chicago, Volume I Number V (October, 1917). Octavo of 214 pages 84 illustrations, Philadelphia and London: W. B. Saunders Company. 1917. Published bimonthly: Price per year, paper, $10; cloth, $14. Contents:

Dr. A. D. Bevan: Benign tumors of breast. Carcinoma of breast. Dr. A. J. Ochsner: Talipes equinovarus following acute anterior poliomyelitis. Varicose veins of leg. Postoperative tetany of sternocleidomastoid muscle. Dr. J. Ridlon: Hip disease. Dr. A. E. Halstead: Hereditary deformans chondral dysplasia. Dr. M. L. Harris: Hernia of breast. Dr. E. W. Andrews: Hemangioma of brain inoperable by ordinary methods. Dr. D. B. Phemister. Brain cyst following skull fracture. Dr. N. M. Percy: Partial evisceration through vagina during attempted abortion. Dr. C. Beck: Tendo- and neuroplasty. Elephantiasis and its treatment by Handley operation. Dr. H. L. Kretschmer: Hydronephrosis due to kidney stone. Ureteral calculus. Dr. T. J. Watkins: Cystocele, uterine prolapse, etc. Radium in hemorrhage at the menopause. Dr. D. N. Eisendrath: Complications of appendicitis. Clinical importance of congenital anomalies of kidney. Dr. H. McKenna: Perforated duodenal ulcer. Early recognition and treatment acute appendicitis. Dr. H. E. Mock: Case of bichlorid poisoning diagnosed and operated on as perforated gastric ulcer. Dr. D. C. Straus: Hammer toe. Dr. Kellogg Speed: Haematuria in appendicitis.

Radium Therapy in Cancer, at the Memorial Hospital, N. Y. (First Report, 1915-6). By Henry H. Janeway, with discussion of Treatment of Cancer of the Bladder and Prostate by B. S. Barringer, and an introduction upon the Physics of Radium by Gioacchino Failla. New York: Hoeber. 1917.

A résumé of the results of radium therapy during two years, in 424 cases of malignant tumors. Of these, 120 showed clinically complete retrogression, 134 were improved, 162 unimproved and fifty-nine were still under treatment. As a majority of the cases were classed as surgical derelicts and discards, the results may be considered as remarkable, and the author deplores the fact that more early cases do not receive the benefits of radium. The Memorial Hospital is fortunate in having about 2.8 gms. of radium, and the emanation is used in preference to the element. The technic of application and exposure time in each individual lesion is carefully given and particular emphasis is laid on the necessity of carefully screening for all except the most superficial lesions. In addition to the differential action of tumor cells whose susceptibility to radium are from two to seven times greater than that of normal tissue—the author believes that there may also be a stimulation of anti-cancerous activity of neighboring normal cells. Skin lesions, tumors of the parotid and the lymphosarcomas show the highest percentages of retrogression, while the carcinoma of the esophagus were the least encouraging. The difficulties in the treatment of the latter condition are fully described. Case history reports occupy a large part of the volume and it is regretted that more careful microscopical examinations could not be obtained in many of the cases, particularly those of the bladder and prostate. In these latter conditions radium probably offers the best therapeutic results. The introduction on the physics of radium and their close relation of the radiations to the Roentgen rays is carefully written and forms a valuable part of the book. This little volume should be of value to all interested in the treatment of malignant tumors, and particularly those attempting the use of radium. L. B.

Eye, Ear, Nose and Throat. A Manual for Students and Practitioners. By Howard C. Ballenger and A. G. Wippern. New second edition. Philadelphia and New York: Lea & Febiger. 1917. Price, $3.50.

This well-known manual, now in its second edition, gives in a highly condensed form much valuable information. It would be an invaluable book for students preparing for examination or for general practitioners who might need a book for quick reference on eye, ear, nose and throat work. H. H.

New System of Gynecology. Ed. by Thos. W. Eden and Cuthbert Lockyer. 3 vols. London: Macmillan. 1917.

This is undoubtedly the best and most comprehensive gynecology that has appeared in any language. The contributing authors include sixty of the best known British and two American gynecologists. Each man was evidently chosen because of his ability to handle his particular subject and the result is a system of gynecology which is second to none. A modern gynecology necessarily includes the surgery of the female urinary organs and abdomen, and the authors have left nothing to be desired in this respect. There are chapters which deal fully with the special methods of investigation of diseases of the kidney, bladder and rectum. Volume I treats with the anatomy and physiology of the female reproductive organs and their malformations, also the various methods of examination, infections, and a splendid chapter on disorders of function by W. Blair Bell.

Volume II deals with the diseases of the vagina, displacements and tumors of the uterus and diseases of the adnexa. The mechanics of retro-displacement and prolapse of the uterus are exhaustively discussed. We cannot agree, however, with Fothergill that the interposition (Watkins-Wertheim) operation for uterine prolapse is an entirely unsurgical and unnecessary procedure. Fothergill quotes figures showing five deaths and thirteen recurrences out of eighty-nine operations. This mortality for a condition which of itself offers no risk to life is appalling, to say nothing of the thirteen failures. The experience of the gynecological staff of the Lane and San Francisco Hospitals with the interposition operation has been quite the opposite. From 200 to 225 operations for cystocele and prolapse of the uterus by this method have been without a single death and the failures or partial failures have been so few as to be almost negligible. Many of the foremost gynecologists in the East are doing, and have been doing this operation for years with entirely satisfactory results.

Volume III considers diseases of the appendix, methods of examination of the urinary tract and the rectum, and diseases of the breast. A large part of this volume is given over to the technique of gynecological operations both major and minor. The volume is concluded by two chapters on Roentgen rays and radium in gynecological practice.

This new work should be in the library of every teaching institution and every surgeon doing gynecology. The broad scope of the work emphasizes again the fact that the modern gynecologist is no longer interested solely in plastic operations of the pelvic floor and with operations on the uterus and adnexa, but that he must be an abdominal surgeon as well. The book is profusely illustrated in black and white and in colors and the illustrations are particularly good. It makes excellent reading both for the student and the specialist and, although the three volumes seem rather expensive at first, they are well worth the price asked.

F. R. G.

Diseases of the Skin. By Richard L. Sutton. Second edition. St. Louis: C. V. Mosby Company. 1917.

That Dr. Sutton's admirable book should so quickly require a second edition shows the hearty welcome it has received from the medical public. One of the excellencies of the book is that short, concise descriptions are given of rare affections frequently not mentioned by other authors, such as gangrenous balanitis, atrophy of the mucous membranes of the mouth, and atrophy of the fatty layer of the skin. Another admirable feature of the work is the full information it contains regarding affections of the mouth, tongue and lips. This is especially appropriate at a time when so much interest is evinced, both by the laity and by physicians, in abnormalities in these situations, because of the danger of mistaking them for manifestations of either cancer or syphilis. D. W. M.

The Roentgen Diagnosis of Diseases of the Alimentary Canal. By Russel D. Carman and Albert Miller. 504 original illustrations. 558 pp. Philadelphia: W. B. Saunders Co. 1917.

We have here a remarkable book written by two men of recognized ability, good judgment and enormous experience. They have made good use of their opportunities in checking their diagnoses at the operating table, and many case records are discussed at the close of each chapter. Although full references are given to the literature. the best thing about the book is that it everywhere represents the personal experience and opinions of the writers. This makes it interesting reading, not only for the novice, but for the experienced specialist. There has been great need for such a work, owing to the mushroom growth of the subject. Only five years ago the reviewer had to get his first radioscope from Germany because the only one then on the American market was a clumsy affair that had to be made to order. During the next two years a number of firms in the United States began to make such instruments; every hospital of any size fitted up an X-ray laboratory; and many physicians put such apparatus into their own offices. For a while there were more machines than experts to handle them and to interpret the findings. Although an enormous advance in diagnosis had been made in this way, as Coffey says, "Roentgen observation . . . is the most dangerous agent yet placed at the disposal of the unscrupulous (or he might have added, the honest, well-intentioned but poorly informed) surgeon, because it is so convincing to the laity." A meaningless kink or a normal variation of the colon will decide in favor of a needless operation.

Many of the chapters in Carman & Miller's book should be read and re-read by the young radiologist and gastroenterologist. The photographs on pages 84 and 85 should be framed and on the wall of every X-ray laboratory to remind the workers that "the stomach normally corresponds to the type of body, just as facial characteristics distinguish races." "Stomachs which are markedly dissimilar in their roentgenologic characteristics may each be appropriate for its possessor and functionate in a normal manner." Most novices with the X-ray are looking for the stomach of Gray's anatomy. As Carman & Miller say, "Certainly the steer-horn form of stomach is so rare that if this be the only normal stomach, then more than 90 per cent. of all stomachs must be abnormal" (p. 91). "Zealous use of the roentgen-ray in the search for abnormalities of the stomach is seldom unrewarded, and some degree of 'gastroptosis' is the rule rather than the exception" (p. 310). Their inclusion of the word "gastroptosis" in quotation marks is, we believe, justified because, as Béclére & Meriel have pointed out, there is no such thing as a **dropped** stomach; it never leaves its upper attachment to the diaphragm, so we should speak only of "lengthened"

stomachs. The authors agree that "from a roentgenologic standpoint, the position which the stomach occupies in the abdominal cavity is its least important characteristic" (p. 309). They agree with Cannon that "drainage" is a term that can hardly be used when dealing with muscular organs floating all together in the abdomen (p. 91).

The colon also has many normal variations, and we recommend Figures 404-407 as objects of careful and thoughtful study for the scores of well-intentioned doctors who have made hopeless hypochondriacs out of slightly constipated people by pointing out as toxin-producing abnormalities harmless folds in their colon pictures.

In four years' study of constipated colons, Carman and Miller and the surgeons have failed to find any obstructive kinks. Angulations were often observed, but these produced no stenosis or back-pressure (p. 501). Their discussion of "intestinal stasis" has, perforce, been derived mainly from the literature. Insufficiency of the ileocolic valve, as demonstrated by the enema, has been meaningless in their experience.

"In regard to adhesions generally—and this applies not only to the colon but to the entire gastro-intestinal tract—it may be said that one of the hardest lessons the roentgenologist has to learn is that juxtaposition of the viscera does not necessarily mean that they are adherent to each other, but, on the contrary, are rarely so" (p. 447). When they have diagnosed adhesions, the surgeon has rarely borne them out.

The book is indispensable to every worker in this field, and should have a great sale. It is a pleasure to recommend it to the physicians of California.

W. C. A.

PRAYER OF MAIMONIDES.

[Daily prayer of a physician before visiting his patients, translated from a Hebrew manuscript of a celebrated Hebrew physician of the 12th century. Translation reprinted from Dr. Harry Friedenwald, Johns Hopkins Hospital Bulletin, August, 1917.]

Almighty God, Thou has created the human body with infinite wisdom. Ten thousand times ten thousand organs has Thou combined in it that act unceasingly and harmoniously to preserve the whole in all its beauty—the body which is the envelope of the immortal soul. They are ever acting in perfect order, agreement and accord. Yet, when the frailty of matter or the unbridling of passion deranges this order or interrupts this accord, then the forces clash and the body crumbles into the primal dust from which it came. Thou sendest to man diseases as beneficent messengers to foretell approaching danger and to urge him to avert it.

Thou has blest Thine earth, Thy rivers and Thy mountains with healing substances; they enable Thy creatures to alleviate their sufferings and heal their illnesses. Thou hast endowed man with the wisdom to relieve the suffering of his brother, to recognize his disorders, to extract the healing substances, to discover their powers and to prepare and to apply them to suit every ill. In Thy Eternal Providence Thou has chosen me to watch over the health and the life of Thy creatures. I am now about to apply myself to the duties of my profession. Support me, Almighty God, in these great labors that they may benefit mankind, for without Thy help not even the least thing will succeed.

Inspire me with love for my art and for Thy creatures. Do not allow thirst for profit, ambition for renown and admiration, to interfere with my profession, for these are the enemies of truth and of love for mankind and they can lead astray in the great task of attending to the welfare of Thy creatures. Preserve the strength of my body and of my soul that they ever be ready to cheerfully help and support rich and poor, good and bad, enemy as well as friend. In the sufferer let me see only the human being. Illumine my mind that it recognize what presents itself and that it may comprehend what is absent or hidden. Let it not fail to see what is visible, but do not permit it to arrogate to itself the power to see what can not be seen, for delicate and indefinite are the bounds of the great art of caring for the lives and health of Thy creatures. Let me never be absent-minded. May no strange thoughts divert my attention at the bedside of the sick, or disturb my mind in its silent labors, for great and sacred are the thoughtful deliverations required to preserve the lives and health of Thy creatures.

Grant that my patients have confidence in me and my art and follow my direction and my counsel. Remove from their midst all charlatans and the whole host of officious relatives and know-all nurses, cruel people who arrogantly frustrate the wisest purposes of our art and often lead Thy creatures to their death.

Should those who are wiser than I wish to improve and instruct me, let my soul gratefuly follow their guidance; for vast is the extent of our art. Should conceited fools, however, censure me, then let love for my profession steel me against them, so that I remain steadfast without regard for age, for reputation, or for honor, because surrender would bring to Thy creatures sickness and death.

Imbue my soul with gentleness and calmness when older colleagues, proud of their age, wish to displace me or to scorn me or disdainfully to teach me. May even this be of advantage to me, for they know many things of which I am ignorant, but let not their arrogance give me pain. For they are old, and old age is not master of the passions. I also hope to attain old age upon this earth, before Thee, Almighty God!

Let me be contented in everything except in the great science of my profession. Never allow the thought to arise in me that I have attained to sufficient knowledge, but vouchsafe to me the strength, the leisure and the ambition ever to extend my knowledge. For art is great, but the mind of man is ever expanding.

Almighty God! Thou has chosen me in Thy mercy to watch over the life and death of Thy creatures. I now apply myself to my profession. Support me in this great task so that it may benefit mankind, for without Thy help not even the least thing will succeed.

Correspondence

MEDICAL MILITARY EXPERIENCES.

To the Editor: Since leaving San Francisco the last of May I have had quite an experience, which may be of some interest to the members of the Society. June, July and August we spent at the Medical Officers' Training Camp at Fort Riley, Kansas, during which time we were put through a strenuous course of military training. These three months were the hottest I have ever experienced, and believe me I never want to spend the same amount of time in the summer of this state again. Californians don't realize the glorious climate they have until they get away from it.

After leaving the training camp I was sent to Camp Funston, and at present am in command of the 314th Sanitary Train, which consists of four field hospitals, four ambulance companies and four camp infirmaries, 900 men in all and 49 officers. We are getting into shape rapidly, and expect by spring to be on the other side. I might here state as regards the medical officers in the service: what

we need is young men, not middle aged or old men, as in field service it is absolutely impossible for the older men to stand the gaff. Field hospital and ambulance service is the hardest physically and the men must be absolutely fit to stand up under what is expected of them. The young doctors who stay at home do not realize the seriousness of what our country has to contend with or I am sure more of them would volunteer. In my command I have about 50 per cent. of men who are over middle age, and such men as these have volunteered their service in a greater proportion to the younger men.

Our division, the 89th, is commanded by General Wood, one of the finest officers the United States has today, and I am sure when it gets into active service it will be heard from to its credit.

Very respectfully,

(Signed) BRUCE FFOULKES,
Major M. R. C., U. S. A.

Headquarters 314th Sanitary Train, 89th Division
U. S. Army, Camp Funston, Kans.
November 21, 1917.

FROM ALLENTOWN.

To the Members of the Mendocino County Medical Society:

At Dr. Beckman's suggestion I will write something concerning the conditions here, and the work done since being called to active duty.

When we left Berkeley, our company consisted of 119 men with Captain Powell in command and Lieutenants Meads, Martin, McCullough and myself. Captain Powell did not come with us but arrived about one month later.

Our company was organized on the old plan but after our arrival was divided into sections of forty-five men each, in command of a lieutenant. The California sections were recruited to their full strength from men here. There were 116 sections in camp at the time we arrived.

This camp is run as a unit in many respects, regardless of the number of men here. For instance, the mess is general, and they were feeding at one time approximately 5000 men. I understand that this is the largest number of men fed by one mess organization in this country. As a rule, each company or battalion has its own individual mess. The Camp Infirmary is now in charge of a Philadelphia doctor and for patients who cannot be cared for at the camp, arrangements have been made at the Allentown Hospital, just across the street from the camp. Major Lockwood is the operating surgeon for the camp.

The camp is located at the Allentown Fair Grounds. These grounds include a racetrack, large grandstand built to hold 10,000 people, and buildings for exhibiting cattle, horses, and poultry. These buildings are all used to house men and during the summer wooden shacks with canvas roofs were built. During the last two months three large wooden barracks have been built and three more are now building. A heating plant is also under construction.

Our work has been entirely that of reorganizing the companies along the new lines and equipping the men.

One contingent left for France the early part of August but none since, and it is likely that most if not all those now here will remain here all winter.

The camp is well provided with ambulances, litters and trucks which are used for instruction purposes. At intervals we are sent out on practice marches or hikes with detachments of men varying from 150 to 1500. During these hikes each command is organized as it would be in the field, thus giving valuable experience in camp sanitation, marching, feeding and caring for the men. I have been out on four hikes, the longest one for nine days. The last one was for only four days and then we camped at an armory in Philadelphia. Reading (Pa.) was visited on a previous hike.

Ambulance is largely one of transportation and it was soon found that medical men could be mostly dispensed with. So early in September, non-medical men with executive and administrative ability were commissioned from the sections and a new service was organized. These men are now in what is known as the Army Ambulance Service. Since that time a number of medical men have been transferred to other places, such as Fort Benjamin Harrison, Fort Oglethorpe, transports or other places for instruction on active duty. I expect a transfer before long but a certain number of medical men will probably be kept here until the newly commissioned men get their bearings in their new places. Our work up to the present has been practically that of a line officer, but it is all valuable experience and will be helpful later on. We are sure to connect with medical work when the need comes.

On the last three hikes I was put in charge of the mess and on our last trip we had 450 men to feed and draw supplies for. We use kitchens built on wheels and are pulled by Packard trucks. These are built so that meals can be prepared and cooked on the road. Field ranges are also used when the camp is stationary. During an eight-day hike we moved camp every day and had the meals out on time. In Philadelphia we cooked a meal and then paraded to a large street in the center of the city and served it. The food was served and the men marched away inside of an hour.

Our men are well equipped for clothing for a climate as cold as this and that is saying a good deal. Army food supplies are generous and of good quality, although not a great variety is available.

The health of this camp can be considered remarkable. There has been only one death in five months and that from appendicitis. No typhoid nor contagious disease has yet appeared. The men have as a rule gained in weight and are quite satisfied. The doctors who came here with large abdomens have reduced their waist lines without losing in weight.

The people of this vicinity are of a Pennsylvania Dutch type and some can hardly speak English although they were born here and many have ancestors who fought in the Revolutionary war. On the whole they are very hospitable and the way they entertain the soldiers is remarkable. Occasionally one finds a friend of the Kaiser who will have nothing to do with us.

The bulletin sent by Dr. Beckman was very interesting and it is gratifying to note the number of the men from the Society who have entered the service.

(Signed) H. H. WOLFE.

Allentown, Pa.
Nov. 13, 1917.

Since the price of milk went up to 14 cents a quart, tea and coffee have been substituted for milk by more than half of the 2200 families—all with children under six—included in the study of the effect of the increased price of milk just made in New York by the Mayor's Committee on Milk, the City Department of Health and the Association for Improving the Condition of the Poor. One hundred and twenty families have stopped taking milk entirely, in 25 of these there are babies under one year old. All the 2200 families have young children, but nearly half are taking from one-fourth to one-half less milk than before the price went up. Yet even before the larger price decreased the amount of milk they bought, these families were getting but little more than half the amount of milk which experts on children's diets say they need.

State Society

IMPORTANT NOTICE—INDEMNITY DEFENSE FUND.

Notes are now becoming due.

Do not let your membership lapse.

Each member will be informed ten days in advance of the due date of his note.

Medical Defense Rules, Section 3: "Dues must be paid to the Secretary of the County Medical Society to which each member belongs prior to the end of February of each year. Any member whose dues are not paid prior to March 1st and whose name is not reported as having paid his dues by the Secretary of his County Medical Society is dropped from the list of members in good standing as of January 1st of such year, and such member is deprived of Medical Defense afforded by the State Society for the period from January 1st of such year to the date when his assessment is received by the State Society. Members whose assessments are not received on or before February 15th of each year will be notified by letter from the Secretary of the State Society of such fact."

STATE DUES FOR 1918.

In order to defray the increased expenses of the Society due to its wider activities, and in response to the recommendations of the Council, the House of Delegates fixed the assessment for 1918 at $7.00, being an increase of $1.00 over the dues of last year.

COUNTY SECRETARIES TAKE NOTICE!

Kindly check the name of your President and Secretary appearing in the list of Presidents and Secretaries of the County Medical Societies on page xlviii of this issue. Any corrections should be received by this office not later than the 10th of January to appear in the February number.

The initial assessment for the organization of the Indemnity Defense Fund was fixed at $30.00, one-half to be paid in cash upon subscription, and the balance by note due one year thereafter.

In fairness to those who joined the Fund promptly, it was necessary to fix a limit upon this method of payment, and therefore DECEMBER 31st, 1917, was settled upon as the LAST MATURITY DATE FOR NOTES.

Commencing January 1st, 1918, a member joining the Indemnity Defense Fund will pay the full initial assessment of $30.00.

THE FOLLOWING RESOLUTIONS WERE ADOPTED BY THE COUNCIL OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA AT ITS MEETING HELD NOVEMBER 24, 1917, IN LOS ANGELES:

RESOLUTION I.

Remission of dues of members while in the federal service during the war.

RESOLVED: That the Council of the Medical Society of the State of California recommends to each component County Society that the constitution and by-laws of each component County Society be amended forthwith to provide that any member thereof now in the service of the United States by reason of the war with Germany and Austria, or who shall hereafter join such service, and who is thereby absent from his practice in his own community shall be exempted from all dues of his component county society during the period of such service;

Be it further resolved, that each member thus exempted shall not be exempted from the payment of his dues to the State Society, but shall transmit such dues through his County Secretary, payable to the Secretary of the State Society.

RESOLUTION II.

Discipline of members for unethical conduct.

WHEREAS, the component County Societies have from time to time applied to the Council for advice and instructions in the matter of discipline of members;

AND WHEREAS, the Constitution and By-Laws of the Society upon the subject are as follows:

Constitution, Article III.

Section 1. This Society shall consist of Members, Delegates and Guests.

Section 2. Members—The Members of the Society shall be the members of the component county medical societies.

By-Laws, Article I. Membership.

Section 1. All members of affiliated County Medical Societies shall, by virtue of such membership, be members of this Society, when duly reported by the President and Secretary of the County Medical Society. The name of the physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be prima facie evidence of membership in this Society.

Section 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of its proceedings, nor receive its publications, until he has been relieved of such disability. Any person who may be suspended for non-payment of dues is to be construed as coming within the provisions of this section.

Section 3. It shall be the duty of the Secretary of each component society to furnish the Secretary of this Society, before the first day of February of each year, a list of all members in good standing (with addresses) on the first day of January of each year.

By-Laws, Article VIII. County Societies.

Section 5. Each County Society shall judge of the qualifications of its own members, but, as such societies are the only portals of this Society and to the American Medical Association, every reputable and legally registered physician who does not practice or claim to practice, nor lend his support to, any exclusive system of medicine, shall be eligible to membership. Before a charter is issued to any County Society, full and ample notice and opportunity shall be given to every physician in the county to become a member.

Section 6. Any physician who may feel aggrieved by the action of the society of this county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, and if the decision of the Council be questioned, an appeal shall be taken to the House of Delegates, whose decision in any case shall be final.

Section 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts; but in case of every appeal, both as a Board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

NOW, THEREFORE, BE IT RESOLVED: That the Council recommends to the component County Societies the following procedure for discipline of members in such cases of unethical conduct or

practice as the respective County Societies may deem proper and suitable:

1. Private warning by the officers of the component County Society.

2. Reprimand by the President of a component County Society during open session or meeting.

3. Suspension for varying period, the duration of which to be determined by the component County Society or its constituted authorities.

4. Expulsion.

In cases 2, 3 and 4, due notice must be given to the member in question with full opportunity for him to be heard thereon.

Any of the foregoing disciplinary measures may be printed in the official publications of either the component County Societies or the State units.

County Societies

ALAMEDA COUNTY.

Urging that Alameda County take steps to protect itself from the swarm of tuberculous patients that probably will enter the county to secure admission to the new tuberculosis hospital at Livermore, Mrs. E. L. M. Tate-Thompson, director of the Bureau of Tuberculosis in the State Board of Health, has written to the Board of Supervisors, making suggestions as to the method of handling the matter and offering to assist the authorities. Mrs. Thompson says the new institution is the finest west of Chicago and pays tribute to Dr. R. J. Cary, its superintendent, as a scientific expert on the disease in question.

The Anti-Tuberculosis Society have received word of about 300 cases of tuberculosis in Alameda County, but a survey of the county is to be undertaken, which, it is expected, will bring to light fully half as many more.

—

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Monday evening, November 19, 1917, at which the following program was presented:

1. Prophylaxis as applied to Normal Labor. Illustrated by lantern slides.
   Dr. Alfred B. Spalding of San Francisco.
2. The Ductless Glands in Obstetrics. Illustrated by lantern slides.
   Dr. Frederick M. Loomis.
3. Menstrual Disturbances in Girls of High School Age.
   Dr. Florence M. Sylvester.

These papers were all very interesting and called forth considerable discussion from Drs. Ewer, Hadden, Loomis, Spalding, and others.

The meeting was one of the best attended of the year, there being about sixty-five members present.

A meeting of the Association was held at the usual place on the evening of December 3, during which the following program was given:

1. Observations in General Surgery at the Clinical Congress of Surgeons.
   Dr. L. P. Adams.
2. Observations in Gynecology at the Clinical Congress of Surgeons.
   Dr. E. N. Ewer.
3. Prevention of Abdominal Ptoses.
   Dr. Kate Van Orden.

The discussion was entered into by Drs. Richards, Strietmann, and others.

Dr. Hamlin was to have presented a paper, but was unable to be present.

Drs. Piercy and Van Orden reported interesting clinical cases.

Dr. K. B. Smith, health officer for the city of Oakland, states that a comparison made between the birth records kept by the Catholic churches of this city and the records of the Health Office covering a period of 12 months, shows one thousand births that had not been recorded at the Health Office, as required by the birth registration laws.

Miss Martenyou has been appointed superintendent of the operating room at Fabiola Hospital, Miss S. Luhiman having resigned.

The city of Alameda claims the honor of being the first city in the State to enforce the new State law regulating the sterilization of drinking glasses.

Dr. K. M. Grant has recently located at Berkeley and is doing voluntary assistant work in the Department of Pathology at the University of California.

Dr. O. E. Kuhn has opened an office at 1033 Shattuck avenue, Berkeley, California.

Dr. Alvin Powell of Berkeley, who holds the rank of Captain, has charge of the University of California Ambulance Company at Allentown, Pa.

Dr. Henry Whisman, a graduate of Johns Hopkins Medical School and who spent two years' interneship at the Roosevelt Hospital, N. Y., has been appointed as resident physician on the Infirmary Staff at the University of California, Berkeley, California.

Dr. Albert Meads, First Lieutenant, Medical Reserve Corps, U. S. A., has been granted a leave of absence as Associate University Physician at the University of California, and is now at the Ambulance concentration camp, Allentown, Pa.

Dr. Bruno S. Landow of Oakland, California, is first surgeon for the ground school of aeronautics at the University of California, Berkeley, California.

A weekly obstetrical clinic has been established at the Oakland College of Medicine. Dr. Dudley Smith, assisted by Dr. O. E. Kuhn, will be in charge.

CONTRA COSTA COUNTY.

The Contra Costa County Medical Society met for its annual banquet and election of officers at the Hotel Oakland, November 17. The following officers were elected for the year 1918:

Dr. W. E. Cunningham, of Richmond, President; Dr. G. M. O'Malley, of Crockett, Vice-President; Dr. U. S. Abbott, of Richmond, Secretary-Treasurer.

Dr. Thos. W. Huntington, of San Francisco, was the honored guest of the evening. Dr. Huntington, in his graceful and eloquent style, told us of his recent travels in Europe. He held the guests around the banquet board spellbound for over an hour, describing his thrilling experiences, making all the doctors present feel that they had not yet even started to do their bit. At the conclusion of the meeting a motion was made by Dr. W. W. Fraser, and seconded by Dr. Leech of Walnut Creek, that a vote of thanks be extended Dr. Huntington for his kindness in being present at this meeting. The motion carried unanimously.

Captain C. L. Abbott had just returned from attending the meeting of the Clinical Congress of Surgeons of America, at Chicago, and a report of his observations there was well received. His reports of the methods of the treatment of wounds in Europe and their results were marvelous.

Those present at this meeting were: Dr. Thos. W. Huntington, of San Francisco; Dr. and Mrs. C. R. Leech, of Walnut Creek; Dr. E. E. Johnson, of Concord; Dr. and Mrs. G. M. O'Malley, of Crockett; Dr. A. L. Morrill, of Antioch. From Richmond: Dr. H. N. Belgium, Dr. W. C. Smallwood, Dr. C. S. Lipp, Dr. C. R. Blake, Dr. Marguerite Deininger-Keser; Dr. and Mrs. H. L. Carpenter; Dr. and Mrs. W. W. Frazer, and daughter; Dr. and Mrs. P. C. Campbell; Dr. and Mrs. U. S. Abbott; Dr. and Mrs. E. W. O'Brien; Dr.

and Mrs. C. L. Abbott, and Mrs. R. H. Crum, of Tiffin, O.; Dr. and Mrs. W. E. Cunningham.

Lieut. F. S. Cook, who is now at Linda Vista Camp, San Diego, sent a letter regretting that he could not be present at this meeting.

Captain I. B. March, of Monterey; Lieut. E. B. Fitzpatrick, of Martinez; and Lieut. Beard, of American Lake, were unable to be present.

No business was transacted by the Society at this meeting, except the annual election of officers.

FRESNO COUNTY.

Dr. W. W. Cross recently presented before the Fresno County Medical Society a resumé of the recent work at the Johns Hopkins Hospital by Cullen on Epithelial Tumors of the Mouth. A number of dentists were present by invitation. Dr. W. W. Cross recently returned from a year spent at Johns Hopkins and Mayo clinics.

Dr. A. O. Scarborough was admitted by transfer from the Scurry-Dickens-Kent Medical Society of Texas. Dr. Ira Wheeler was admitted by transfer from Sonoma County Society. Dr. E. L. Bennett was elected to membership. Dr. J. H. Robinson, of Selma, Cal., applied for admission.

Dr. W. L. Benedict, recently from Fresno, is now permanently located at the Mayo clinic, Rochester, Minn.

The sum of $10 monthly was appropriated to be used in the discretion of the board of governors in the relief of dependents of the "allies."

Arrangements were made to hold all future meeting at the University Club.

The Fresno County Medical Society met in the University Club quarters, December 4 last. The following members were elected to office for the year 1918:

President, Dr. C. D. Collins; First Vice-President, Dr. J. H. Pettis; Second Vice-President, Dr. G. L. Long; Secretary, Dr. C. O. Mitchell, incumbent; Assistant Secretary, Dr. W. E. R. Schottsteadt; Treasurer, Dr. T. M. Hayden, incumbent; to the Board of Governors, Dr. A. B. McConnell; Delegate to the State Medical Society, Dr. W. W. Cross; Alternate Delegate to the State Medical Society, Dr. W. T. Barr.

The sum of five dollars was donated to the Belgian Relief Society, also a like sum to the "Children of America's Army of Relief."

Dr. J. Harry Robinson, of Selma, was elected to membership in the society.

Dr. F. K. Pomeroy, graduate of Columbia University, and late of the New York Post Graduate School (resident physician six months, intern two years), licensed Calif., April, '17, made application for admission to this society.

An amendment to the Constitution was passed making the annual dues payable as follows: The first $7 not later than January 31, and the second installment not later than July 31 of each year, thus providing for the State Society's $7 before the same must be remitted by the County Society.

KERN COUNTY.

The regular meeting of the Kern County Medical Society was called to order by President Gundry, who presided for the first time in several months. having returned November 1 from the east. This was a joint meeting of the Medical Society and the Health Officers of Kern County, both city and local county deputies. The meeting was addressed by E. A. Ingham, S. B., C. P. H., State Health Officer, Southern District, with headquarters at Riverside. Dr. Ingham spoke on the general lines of the relation of the State District Health Officer to the local Health Officers in his district. He brought out the fact that in Kern County, in both cities and country, only one-third of one per cent. of the gross income was used for health purposes as against about four per cent., the proper rate.

LOS ANGELES COUNTY.

Eye and Ear Section.

The regular meeting of the Eye and Ear Section of the Los Angeles County Medical Association was held at the offices of Dr. H. J. Kiefer, 406 Brockman Building, Los Angeles, California, November 5, 1917, at 8:00 P. M.

Visitors: Drs. Sleeper, Earing, Merrell and Gage.

Attendance: Drs. Dudley, Brown, Detling, Griffith, Kiefer, Kelsey, Leffler, Geo. McCoy, R. W. Miller, Mills, Old, Reynolds, Stivers, Sweet, Stephenson, Swetnam, F. L. Rogers.

Minutes of previous meeting read and approved.

Report of case by Dr. George McCoy: Growth in nose, septal, in little girl, papillomatous, in the right side. Left side looked as if it had perforated. Brem and Zeiler report, Endothelioma. Dr. Rex Duncan gave seven exposures of radium, one every other day for two and one-half hours, no reaction until last one, then violent, nose swelled, last exposure last week of September. Now shows slight redness due to the radium. We do not know whether radium will or will not cure.

Second case, Carcinoma of Nose: Right antrum x-ray dark, microscopic examination not made here but in Phoenix. No mistake to judge by macroscopic appearance, radium applied into antrum through an opening. Two months later I examined and found no signs of it. Instructed her to report every six months.

Third case, Epithelioma of right lid: Was x-rayed by several men, now under radium. Lid is now scar tissue. Can see from lower lid into nose from burning of radium. Opinion is that neither radium nor surgery will cure. Has had three recurrences.

Dr. Mills: Did work along similar lines with Dr. Abbey of New York. He believes epithelioma of lids, especially near canthus, is amenable to surgical treatment. Dr. Abbey sorry he did not operate.

Dr. Dudley discussed "Experiences with Eustachian Catheterization." Catheterized eustachian tubes of woman produced emphysema, extended down into chest and around neck tissues. Gave her anodyne, hyoscyamus, valerian and camphor. Patient got better, did not see her next day. Patient felt two weeks later that it was going to her brain. I said it was impossible! Another specialist called in, said nothing more to do. Agreed with him.

Second case: Man catheterized for O. M. C. C. Emphysema occurred, vertigo, nausea, recovered.

Third case: Relapse from old case O. M. P. A. Gave boy some inflations, mucus in tubes, inflations caused some dizziness and vertigo. Gave nitroglycerin with good results. No roaring, no general anemia but believe caused a reflex spastic condition of anemia in the vicinity of the vestibule.

Dr. Sweet of Long Beach: Emphysema of cheek after tonsillectomy, disappearance O. K.

Dr. Lund: Caused double emphysema in a patient, also case of vertigo, by washing out cerumінous plug.

Dr. Stivers: Two cases emphysema. One Politzer. One compressed air.

Dr. Kelsey: Two cases emphysema, Politzer. Nystagmus and dizziness. One fainting case.

Dr. R. W. Miller: Two cases emphysema entirely in neck. One divided between neck and pharynx. Sepsis may occur. Saw case of dentist who caused emphysema in drying out tooth with compressed air.

Secretary announced that Dr. Powers wanted a physician to make cultures of meningococcus at San Pedro. Dr. Sweet of Long Beach volunteered.

Report of Committees on Membership: Secretary read report on Dr. Edwards. Dr. Sweet

moved, seconded by Dr. Mills, to make election of Dr. Edwards unanimous. Carried.

A special meeting of the Eye and Ear Section of the Los Angeles County Medical Association with the Clinical and Pathological Society was held in the hall on the 12th floor of the Brack Shops, 521-27 West Seventh street, Los Angeles, California, September 27, 1917, at 8:00 P. M.

Attendance: Drs. Bullard, Church, Old, Griffith, Harris, Graham, Tholen, Dudley, Dilworth, Sweet, Kelsey, Fleming, Sweet, Ellis, Kress, Lund, Hastings, Geo. McCoy, Stivers.

Visitors: Major Isaac H. Jones, M. R. C.

The Section was entertained by a combined program, consisting of cases and reports from the Clinical and Pathological Society and a lecture and demonstration on the vestibular tests for Aviation candidates, by Major I. H. Jones, who said in part:

"The Government wants an enormous number of aviators who must possess 20-20 vision without glasses and good hearing, besides passing all the regular tests for the draft army, and especially to possess normal vestibular and muscle balance which is determined by the use of Dr. Jones' modification of Barany's whirling chair. The tests are first for horizontal nystagmus which should last about 26 seconds, although a variation of 10 seconds is allowed, the nystagmus is taken after turning with closed eyes, first to the right 10 times in 20 seconds, then to the left in the same time, head forward 30 degrees.

"The second test is called Past-pointing and is a test which determines the integrity of the internal ear, vestibule, brain-stem, cerebellum and arm and shoulder muscles. The candidate is whirled with closed eyes first to the right 10 times in 10 seconds, head bent forward at an angle of 30 degrees. The chair is brought to a full stop and the candidate instructed to point with the arm first extended up over the head and then brought slowly down, attempting to touch the examiner's outstretched fore-finger.

"Normal past-pointing is to the right when candidate is turned to the right, and to the left when candidate is turned to the left.

"The Falling test is made with the candidate's head forward at an angle of 90 degrees, resting on his fists which are on his knees. With eyes closed the candidate is turned 5 times in 10 seconds to the right and then instructed to sit up straight in the chair when if he is normal he will fall over to the right. Then he is turned to the left and should fall to the left."

Dr. Jones described every possible variety of both normal and pathological conditions which might be present.

The Eye and Ear Section also gave a dinner at the University Club, complimentary to Major Jones, which twenty members besides several visitors attended. Dr. Jones announced that the examining unit for testing aviators would be formed soon in Los Angeles.

—

The Los Angeles County Medical Association had its first meeting of the season, October 14th, 1917. Dr. Granville MacGowan's subject was "Surgery of the Prostatic Urethra." Dr. Rex Duncan dwelt on "Radium in Gynecology" and Dr. Lulu N. Peters spoke pleasingly on "The Physician as an Educator." As usual the meeting was well attended and the informal luncheon brought colleagues in closer touch with one another. This social feature, no doubt, adds much to promote the fraternal spirit which the officers and councilors of the society have worked so hard to establish.

October 18, 1917, there was a clinical meeting at the County Hospital, held in the chapel, in charge of Assistant Medical Director Dr. J. Mark Lacey. Many interesting cases were presented and discussed.

November 1 the society met as usual in the Cafe Room of the Hamburger Building. A big audience listened with keen interest to an address by Nathaniel Bowditch Potter of New York and Santa Barbara on "Some Features of the Allen Treatment for Diabetes." He dwelt particularly on repeated fasting days until there is no sugar in the urine, to keep close watch for its reappearance, and to determine how many periodic fasting days the case may require. He also spoke of the importance of fat starvation to avoid diaceturia. No refreshments were served and members did not linger for the social hour.

The new method of electing officers, proposed by Dr. Kress, has been put in operation for the county election. The By-Law provides for a primary nominating ballot with three or more candidates for each office and a final election ballot of the two candidates receiving the highest number of votes.

November 15, 1917, the society had a unique and historic meeting for the discussion of "Military Surgery." Our chairman of the Committee on Scientific Program, Dr. Kress, has again proved to us all that his programs are not only interesting from a purely scientific standpoint, but are also preeminently apropos.

Members of the Navy in their natty blue uniforms contrasting markedly with the rough-and-tumble khaki of the Army Hospital units, and members of the profession in the Medical Reserve or other Medical Corps, altogether about sixty, sat facing their cheering colleagues of civil life, several hundred strong.

Dr. Chas. C. Browning, our president, was in the chair. Dr. Kress, the Secretary-Treasurer, capped the climax by raising the society's huge Service Flag dotted with stars, representing our fellow-members in service of our country.

Dr. E. C. Moore, member of the Southern California Section, Medical Division of the Council of National Defense, was the first to speak, the subject being "A Brief Report on the Recent National Conference."

Dr. Charles W. Anderson, another Los Angeles member, who has just completed a fourteen months' service in the Canadian Corps with the rank of Captain, gave "Some Observations of Military Surgery as seen in England and France."

Dr. A. Cronyn, Captain Canadian Army Medical Corps, while speaking of the life in the trenches and the most efficient methods of treating wounds, wove into his narrative quaint anecdotes full of humor and wit that kept his hearers in peals of applauding laughter.

Owing to the illness of his father, our fellow member, Dr. Rea Smith, Surgeon-Director of the Los Angeles Naval Hospital Unit, was not able to address the Society on this evening. His father, one of the oldest and best-known surgeons of Southern California has since died. The sympathy of the profession is with Dr. Rea Smith and his family in their loss.

The program concluded with patriotic songs led by Mr. George Towle and accompanied by all present with great enthusiasm.

Dr. Luther M. Powers, Chief of the Los Angeles City Health Department, is busy finding ways and means for the prevention of venereal diseases in this city. The Inebriate Home will be used as a detention house for women patients, and it is to be named "Los Feliz Hospital." The men are to be treated in the city jails. A corps of helpers, consisting of a man and a woman doctor and a

laboratory assistant for Wassermann and gonococci examinations, will be on the staff.

Dr. John R. Haynes, of Los Angeles, has been appointed sectional chairman for the Red Cross Christmas Membership Drive for Southern California. The district consists of Santa Barbara, San Bernardino, Los Angeles, Ventura, Orange, San Diego, Imperial, Riverside and San Luis Obispo Counties.

The Americanization and public health department of the State Council of Defense, of which Mrs. Frank A. Gibson is local chairman, with headquarters at 709 So. Hill Street, Los Angeles, has issued its first bulletin dealing with birth registration, infant mortality and the milk supply. Nearly all of the women's clubs are helping in this work.

Dr. Jno. Larrabee Pomeroy, Chief of the Los Angeles County Board of Health, has established a new division for the prevention and cure of venereal diseases among soldiers of this county. He is also cooperating with the civil authorities in this matter, and has appointed Dr. Allen L. Winter, recently of New York City and Paris, to take charge of this work. California is the first State and Los Angeles the first county of the State to have such a unit.

Women Physicians and the War.

At a meeting of the Los Angeles Branch of the Organization of Women Physicians for Federal Military Recognition, Dr. Lulu Peters, chairman, the Colorado Plan, which originated with Senator Saffroth and Dr. Mary Bates, was indorsed. The plan is that each suffrage State is to present to President Wilson for selection, the name of a woman physician eminently fitted physically, mentally and morally for military service. If approved by him, others are to apply. Surgeon-General Gorgas said that when there is great need, the women will undoubtedly receive positions the same as men. Drs. Eleanor Seymour and Etta Gray spoke at the meeting.

MENDOCINO COUNTY.

The November meeting was held at the Langland Hospital in Ukiah, on Saturday evening, the 10th. It was the most interesting of any we have had yet. The managers, the Misses Hilma E. Johanson and Theresa A. Kramer, had extended a cordial invitation to the society to take dinner and hold the meeting at their hospital.

The Misses Kramer and Johanson started the proceedings by entertaining the members and visiting M. D.'s at a lavish and palatable banquet that was pronounced one of the best ever attended. The society extended its vote of thanks to the managers.

Among those present were Drs. G. W. Stout, Ukiah; Frank S. Baxter, Willits; L. K. Van Allen, Ukiah; Melvin John Rowe, Talmage; Ida Malpas, Ukiah; L. L. Stanley, San Quentin, and S. L. Rea, Ukiah.

Dr. L. L. Stanley contributed an especially interesting paper on "The Medical Inspection of Prisoners at San Quentin, and Nasal Refracture."

Dr. Melvin John Rowe of the Mendocino State Hospital read an excellent and much appreciated paper on the "Classification of Delirium." Both papers were discussed by all present. The society voted appreciation and thanks to Drs. Rowe and Stanley.

Lieut. R. H. Hunt is still at San Pedro, taking fingerprints, etc.

Lieut. H. H. Wolfe is still taking long hikes from Allentown, Pa., to all points of the Keystone state.

Dr. H. O. Cleland is waiting for orders.

Dr. R. A. Babcock is at Camp Lewis.

SACRAMENTO COUNTY.

The regular meeting of the Sacramento Society for Medical Improvement was held Tuesday evening, November 20th, at the Sacramento High School Auditorium. This meeting took the form of a popular lecture to which the general public was invited. The regular order of business was dispensed with and no scientific program was arranged for.

Dr. T. W. Huntington delivered a very instructive and impressive address on the conditions found in the war hospitals of Europe and noted the degree of efficiency found in these military hospitals and also the need of support, especially in the form of supplies, most of which must come from America. The Auditorium seats about six hundred and every available seat was taken and standing room was at a premium. The ushers reported that several hundred were turned away.

SAN FRANCISCO COUNTY.

During the month of November, 1917, the following meetings were held:

Tuesday, November 6—Section on Medicine.

1. Demonstration of specimen: acute phlegmonous gastritis. Harold Brunn.
2. Asthma. René Bine.
3. Asthma in childhood, with special reference to its relationship with anaphylaxis. Harold K. Faber.
4. Spasmodic vasomotor disturbances of the respiratory tract, with special reference to hay fever. Preliminary report. Grant Selfridge.

Tuesday, November 13—General Meeting.

1. Glaucoma patients as a clinical problem. Hans Barkan.
2. Conditions found in England, France and Italy during the recent visit of the Red Cross Commission. T. W. Huntington.

Tuesday, November 20.

1. Report of two cases of lung abscess, with presentation of cases. Paul Campiche.
2. Some surgical aspects of the knee joint. J. T. Watkins.

Tuesday, November 27.

1. Presentation of cases.
   Hans Barkan:
   (a) Congenital malformation of lids, with small pupillary membrane.
   (b) Laceration of eyeball, with traumatic cataract.
   H. B. Graham:
   (c) Operation for depressed fracture of nose, followed by paraffin injection.
   (d) Report of case: Rib transplant into the nose, without rise of temperature or infection.
2. Plastic surgery of the nose and ears; with lantern demonstration. Grant Selfridge.
3. Nasal refractures; with lantern demonstrations. L. L. Stanley.
4. Plastics of the soft parts of the face. Leo Eloesser.

Base Hospital No. 30 Mobilized.

Base Hospital No. 30, organized in the University of California Medical Department, has been ordered to mobilize for training of enlisted personnel at Fort Mason, San Francisco, California. For this purpose, it has been placed under command of Col. Elmer A. Dean. Most of the officers of the organization have already had military training and at the present time are in active service in various parts of the country. Those ordered for immediate mobilization with the unit are:

Major Eugene S. Kilgore, Director and Chief of Medicine; Captains Jule B. Frankenheimer,

Louis P. Howe and Arthur L. Fisher, and Lieutenants Malcolm Goddard, Hiram E. Miller and John M. Rehfisch.

The remainder of the official personnel are to be assembled when the organization is ready for foreign service. These include:

Drs. Elbridge J. Best, Ernest H. Falconer, Arthur C. Gibson, C. R. Giles, Chas. M. Richards, Howard E. Ruggles, Hudson Smythe, Chas. L. Tranter, Herbert S. Thomson, William W. Washburn, Alanson Weeks, Nathan P. Wood, J. Homer Woolsey, Harold W. Wright.

University of California Men in Service.

Members of the staff of the University of California Medical School now in active service of the U. S. Army and Navy.

Professors—Herbert C. Moffitt, Major, Army, Fort Sam Houston, Texas. William Palmer Lucas, Army, Paris, France.

Assistant Clinical Professors—Eugene S. Kilgore, Major, Army, Presidio, San Francisco. Lionel S. Schmitt, Major, Army, Adjutant General's Office, San Francisco. James L. Whitney, Captain, Army, Camp Kearny, Linda Vista. Howard E. Ruggles, Army, Presidio Training Camp.

Instructors—Howard C. Naffsiger, Captain, Army, South Carolina. Walter I. Baldwin, Captain, Army, Edinburgh War Hospital, Scotland. Herbert S. Thomson, Captain, Army, Camp Kearny, Linda Vista. Leroy C. Abbott, Lieutenant, Army, War Office of Col. Robt. Jones, London, England. Louis P. Howe, Lieutenant, Army, 52nd Infantry, Presidio, San Francisco. Jule B. Frankenheimer, Captain, Army, Provisional Sanitary train, San Francisco. Alanson Weeks, Major, Army, Camp Lewis, Washington. Elbridge J. Best, Captain, Army, examining aviators, San Francisco. Ernest H. Falconer, Lieutenant, Army, Camp Kearny, Linda Vista. Frederick C. Lewitt, Lieutenant, Army, Presidio, San Francisco.

Assistants—John M. Rehfisch, Lieutenant, Army, Fort Mason, San Francisco. J. Homer Woolsey, Lieutenant, Army, Fort Oglethorpe, Georgia. Charles L. Tranter, Lieutenant, Army, Letterman General Hospital, San Francisco. Harold W. Wright, Lieutenant, Army, Presidio, San Francisco. Henry Horn, Captain, Army, examining aviators, San Francisco. Hugh K. Berkeley, Lieutenant, Army, Camp Kearny, Linda Vista. William W. Behlow, Lieutenant, Navy, Mare Island. C. F. Gelston, Army, Somewhere in France. Arthur L. Fisher, Lieutenant, Army, Fort Mason, San Francisco. Linton Gerdine, Navy, Peru.

Voluntary Assistants—Francis M. Shook, Navy. Arthur C. Gibson, Lieutenant, Army, Fort Riley, Kansas. Hudson Smythe, Lieutenant, Army, Fort Riley, Kansas.

Internes—Thomas Dunn, Navy. Frederick Linde, Lieutenant, Navy, Samoa. J. C. Ruddock, Navy. F. P. Brendel, Lieutenant, Army, Fort McDowell, Angel Island. M. L. Cohn, Navy, San Pedro, Cal. H. E. Miller, Lieutenant, Army, Fort Mason, San Francisco. E. R. Zumwalt, Lieutenant, Army, Fort McDowell, Angel Island.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held Friday evening, November 20, at the Chamber of Commerce, President C. R. Harry presiding. Those present were Drs. B. F. Walker, W. F. Priestly, S. F. Priestly, J. T. Davison, J. D. Dameron, R. T. McGurk, W. T. McNeil, R. B. Knight, H. E. Sanderson, Minerva Goodman, Margaret Smyth, H. F. Bolinger, L. Dozier, R. R. Hammond, F. P. Clark, C. D. Holliger, C. R. Harry, E. B. Todd and D. R. Powell, with Dr. McCloskey and Dr. Cochrane of Stockton and Dr. Thomas W. Huntington of San Francisco as guests.

The talk of the evening was given by Dr. Huntington upon his personal observations in France and Italy, from which countries he had just returned. His observations were most instructive and the doctor's position as a member of the American Red Cross Commission had given him entry to every part of the line and his survey was most complete. He spoke of the tremendous numbers of wounded and the hundreds of hospitals and the remarkable coordination between the dressing stations in the trenches, the evacuation hospitals and the base hospitals. He was very complimentary of the excellent work of the Italian surgeons. He found the Italian hospitals fairly well equipped with materials and supplies. He also spoke of the remarkable work of Tizzone with his antitetanic serum.

SANTA BARBARA COUNTY.

Cottage Hospital Dispensary.

A dispensary was opened by the Santa Barbara Cottage Hospital on June 1 of this year. Its object is to co-operate with other public health agencies already established and to make medical advice and care possible to those who cannot pay for it, without overburdening physicians' offices with free patients.

The building, an attractive little bungalow, on Fourth avenue, was built and completely equipped as the gift of Mr. Geo. Owen Knapp. It contains a large receiving room and departments for the treatment of medical, surgical, eye and throat conditions. The dispensary is open from 1:30 to 2:30 P. M., Tuesdays and Fridays. Patients are admitted for free treatment upon recommendation of physicians or of reputable agencies or individuals. In cases where the patient seems able to pay in part, it is the endeavor of the dispensary to investigate the case, and if possible return the patient to his physician with the recommendation for leniency in charges, and the assurance of the co-operation of the dispensary and hospital departments in any medical or laboratory investigations he may desire to make.

A patient needing hospital care is admitted to the hospital and treated by the dispensary physician or surgeon. Laboratory and x-ray facilities of the hospital are at the disposal of the dispensary. These expenses as well as the operating expenses of the dispensary are at present charged to the fund for general relief, but it is hoped that a fund may be established to meet these special needs. It is also hoped that a social service worker may be procured who will be occupied in the investigation of patients, and in the following up of recommended treatments. At present that work is being done by the various social and health agencies in the city, as the cases are referred to them. This is possible as long as the number of members treated remain small. In the period of five months since its opening the dispensary has admitted 346 new cases and has given 670 treatments. 86 cases have been referred to the hospital.

The staff of the dispensary consists of Santa Barbara physicians and surgeons who each serves a definite term. The first services are as follows: Medical, Dr. Benj. Bakewell; surgical, Dr. W. H. Campbell; eye, Dr. L. R. Ryan; nose and throat, Dr. Geo. Wells.

A special clinic for the examination of cases suspected of tuberculosis, which may be referred from the medical department of the dispensary, is in charge of Dr. Nathaniel Bowditch Potter, and is held at 8:30 Friday morning.

Miss Pearl Howeth and Miss Clara Jones, two Santa Barbara nurses and members of Base Hospital No. 47, have been detailed to temporary duty at Camp Kearney, Linda Vista, Calif. Miss Beatrice Keogh has been sent to Beauregard, Alabama.

SISKIYOU COUNTY.

The Siskiyou County Medical Society held its regular quarterly meeting with the Drs. Tebbe at Weed, October 10. An interesting scientific program occupied most of the afternoon. Fourteen abnormal obstetric cases were reported by Dr. Hall of Hilt. An interesting case of tubal pregnancy diagnosed and afterward successfully operated upon, was reported by Dr. Nutting of Etna Mills.

After the scientific program, the Secretary, in behalf of the Society, presented Dr. Wm. Tebbe with an officer's wrist watch. Dr. Tebbe expects to be with the American forces in France in the very near future.

Resolutions were authorized on the death of Dr. C. W. Nutting who, until his recent death, had been the president of the County Society since its organization.

The members adjourned to the dining room where two hours were delightfully spent about a dinner with the Drs. Tebbe acting as hosts.

SONOMA COUNTY.

The Sonoma County Medical Society has elected the following officers for the year 1918: President, Dr. J. W. Cline; vice-president, Dr. Elizabeth M. Yates; secretary, Dr. N. R. H. Juell; treasurer, Dr. R. M. Bonar; censors, Dr. J. W. Kerr and Dr. F. E. Sohler; delegates to State Society meeting, Dr. M. B. McAuley, Dr. J. W. Scamell; alternates, Dr. F. O. Pryor, Dr. J. H. McLeod.

It was stated in the December issue of the Journal that Dr. J. W. Seawell had purchased the Santa Rosa Hospital from Dr. Temple, whereas the name should have been Dr. J. W. Scamell.

Dr. N. R. H. Juell has been appointed School Physician in Santa Rosa, and will devote all his time to school inspection and sanitation.

MILITARY NEWS

California Physicians in Service

Capt. Dr. Clark Lorenzo Abbott, 912 Macdonald Ave., Richmond, Cal.

Dr. Roy C. Abbott, 135 Stockton St., San Francisco, Cal.

Dr. Henry Abram, U. S. A., 135 Stockton St., San Francisco, Cal.

Dr. Bonnie O. Adams, Riverside, Cal.

Dr. C. B. Adams, Consolidated Realty Bldg., Los Angeles, Cal.

Dr. E. Von Adelung, 407 29th St., Oakland, Cal.

Dr. B. F. Alden, 126 Post St., San Francisco, Cal.

Dr. C. B. Alexander, 31 W. Main St., Alhambra, Los Angeles County, Cal.

Dr. Fred'k K. E. Allen, Box 448, Hayward, Cal.

Dr. Herbert Williams Allen, 240 Stockton St., San Francisco, Cal.

Lieut. Dr. W. B. Allen, Central Bank Bldg., Oakland, Cal.

Dr. S. M. Alter, 1759 Allesandro St., Los Angeles, Cal.

Dr. C. W. Anderson, Brockman Bldg., Los Angeles, Cal.

Dr. O. Anderson, Decatur . Bldg., Ocean Park, Cal.

Dr. H. S. Anderton, Commercial Club Bldg., Burlingame, Cal.

1st Lieut. Dr. L. A. Anthony, Novato, Cal.

Capt. Dr. R. S. Anthony, Post Office Bldg., Los Gatos, Cal.

1st Lieut. Dr. Leonard Wood Atkinson, 611 First St., Napa, Cal.

Dr. R. W. Avery, Oxnard, Cal.

Dr. Raymond Babcock, Willits, Cal.

Dr. W. C. Baker, San Mateo, Cal.

Dr. C. Ballard, 1201½ Central Ave., Los Angeles, Cal.

Capt. Dr. A. E. Banks, Timken Bldg., San Diego, Cal.

Dr. J. Henry Barbat, 275 Post St., San Francisco, Cal.

Dr. Nathan P. Barbour, 391 Sutter St., San Francisco, Cal.

Dr. J. W. Bardill, 1221 Brand Blvd., Casa Verdugo, Cal.

Dr. Hans Barkan, 516 Sutter St., San Francisco, Cal.

1st Lieut. Dr. J. W. Barnes, I. O. O. F. Bldg., Marysville, Cal.

1st Lieut. Dr. Paul Barnes, Grass Valley, Cal.

Dr. Geo. De Forest Barnett, 2402 California St., San Francisco, Cal.

Dr. Gilbert M. Barrett, 275 Post St., San Francisco, Cal.

Dr. S. G. Bay, Hollingsworth Bldg., Los Angeles, Cal.

Dr. John L. Beard, Martinez, Cal.

Dr. S. O. Beasley, 240 Stockton St., San Francisco, Cal.

Capt. Dr. Wilfred F. Beerman, U. S. A., 135 Stockton St., San Francisco, Cal.

Dr. Irwin E. Bennett, 2903 Mission St., San Francisco, Cal.

Dr. Elbridge J. Best, 209 Post St., San Francisco, Cal.

Dr. James A. Black, 209 Post St., San Francisco, Cal.

Dr. W. O. Blanchar, 6130 Compton Ave., Los Angeles, Cal.

Dr. T. L. Blanchard, Bank of San Jose Bldg., San Jose, Cal.

Dr. Herbert I. Bloch, Physicians' Bldg., San Francisco, Cal.

Dr. Walter W. Boardman, Lane Hospital, San Francisco, Cal.

Capt. Dr. Arthur Newton Bobbitt, Signal Corps, San Diego, Cal.

Dr. A. E. Boland, Needles, Cal.

Lieut. Dr. P. Boller, U. S. N., L. A. Investment Bldg., Los Angeles, Cal.

Dr. K. M. Bonoff, 342 N. Main St., Los Angeles, Cal.

Dr. W. B. Bowman, Brockman Bldg., Los Angeles, Cal.

Dr. J. I. Boyer, 921 W. 12th St., Los Angeles, Cal.

Dr. R. W. Brace, U. S. A., Modesto, Cal.

Dr. W. V. Brem, Brockman Bldg., Los Angeles, Cal.

Dr. R. G. Brodrick, Supt. S. F. Hospital, San Francisco, Cal.

Dr. S. D. Brooks, 534 Wilcox Bldg., Los Angeles, Cal.

Dr. A. L. Brown, Michigan Bldg., Riverside, Cal.

Dr. Joseph Richard Brown, 166 Geary St., San Francisco, Cal.

Dr. Philip King Brown, 516 Sutter St., San Francisco, Cal.

Dr. R. Brown, San Marcos Blk., Santa Barbara, Cal.

Dr. C. C. Browning, Merritt Bldg., Los Angeles, Cal.

Dr. F. M. Bruner, Ferndale, Cal.

Major Dr. Wm. A. Bryant, U. S. A., 2113 Broderick St., San Francisco, Cal.

Dr. John R. Buckingham, Gregg Bldg., Big Pine, Cal.

1st Lieut. Dr. G. M. Bumgarner, Brower Bldg., Bakersfield, Cal.

Capt. Dr. Sterling Bunnell, 516 Sutter St., San Francisco, Cal.

Dr. G. W. Burgess, Saratoga, Cal.

Jr. Lieut. Dr. E. E. Burk, U. S. N., Grant Bldg., Los Angeles, Cal.

1st Lieut. Dr. Edw. Wilbur Burke, Masonic Temple, Redlands, Cal.

Dr. J. M. Burlew, Santa Ana, Cal.

Dr. W. W. Furnell, 1225 Washington St., Oakland, Cal.

Lieut. Dr. Edmund Butler, U. S. N., 135 Stockton St., San Francisco, Cal.

Dr. F. O. Butler, Eldridge, Cal.

Dr. O. W. Butler, L. A. County Hospital, Los Angeles, Cal.

Capt. Dr. A. H. Byars, Watts Bldg., San Diego, Cal.

Dr. Ralph L. Byrnes, Merritt Bldg., Los Angeles, Cal.

Dr. R. Cadwallader, 240 Stockton St., San Francisco, Cal.

1st Lieut. Dr. Wm. J. Caesar, 2135 Sacramento St., San Francisco, Cal.

Dr. John W. Calhon, U. S. A., San Bernardino, Cal.

1st Lieut. Dr. H. McD. Cameron, Elks Bldg., Sacramento, Cal.

Dr. E. O. Campbell, R. F. D. No. 2, Santa Barbara, Cal.

Dr. P. C. Campbell, 213 Richmond Ave., Richmond, Cal.

Dr. Jno. Carling, Black Bldg., Los Angeles, Cal.

Dr. Frank B. Carpenter, 209 Post St., San Francisco, Cal.

Dr. R. A. Carter, 2711 Central Ave., Los Angeles, Cal.

Lieut. Dr. R. S. Carter, U. S. A., Timken Bldg., San. Diego, Cal.

1st Lieut. Dr. Ervin J. Casper, 162 Post St., San Francisco, Cal.

Lieut. Dr. Joseph Henry Catton, 177 Post St., San Francisco, Cal.

Dr. W. Edward Chamberlain, 233 Post St., San Francisco, Cal.
Dr. W. E. Chambers, 1st Nat. Bk. Bldg., Oakland, Cal.
Dr. W. J. Chambers, Fay Bldg., Los Angeles, Cal.
1st Lieut. Dr. O. D. Chamley, Box 901, R. F. D. No. 2, San Gabriel, Cal.
Dr. P. S. Chancellor, San Marcos Bldg., Santa Barbara, Cal.
1st Lieut. Dr. Harvey P. Charles, 2168 Shattuck Ave., Berkeley, Cal.
Lieut. Dr. A. T. Charlton, U. S. N., Brockman Bldg., Los Angeles, Cal.
Dr. Jas. F. Churchill, U. S. N., Timken Bldg., San Diego, Cal.
Dr. V. G. Clark, 4th and Elm Sts., San Diego, Cal.
Capt. Dr. William R. P. Clark, U. S. A., 240 Stockton St., San Francisco, Cal.
Dr. H. O. Cleland, Ukiah, Cal.
Dr. H. X. Cline, 149 San Fernando Blvd., Burbank, Cal.
Dr. M. M. Cloud, Brosse Bldg., Los Angeles, Cal.
Dr. L. B. Coblentz, Santa Maria, Cal.
Lieut. Dr. G. Cochran, U. S. N., Pacific Electric Bldg., Los Angeles, Cal.
Dr. Albert Cohen, 146 Grant Ave., San Francisco, Cal.
Dr. Earl H. Coleman, Fallen Leaf Lodge, Lake Tahoe, Cal.
Lieut. Dr. Frederick A. Coller, U. S. A., 658 W. Jefferson St., Los Angeles, Cal.
Dr. J. D. Condit, St. Louis Blk., Pasadena, Cal.
Dr. J. M. Conerty, Hibernia Bldg., Los Angeles, Cal.
Dr. C. P. Conroy, 700 San Vicente Blvd., Santa Monica, Cal.
Dr. G. M. Converse, 1085 Mission St., San Francisco, Cal.
1st Lieut. Dr. F. S. Cook, U. S. A., Brentwood, Cal.
1st Lieut. Dr. W. E. Coppedge, Alturas, Cal.
Dr. G. T. Courtenay, U. S. N., Timken Bldg., San Diego, Cal.
Lieut. Dr. J. R. Cowan, U. S. N., Mer. Nat. Bank Bldg., Los Angeles, Cal.
Dr. Roy M. Cox, San Luis Obispo, Cal.
Lieut. Commander Dr. E. L. Crispin, Mer. Nat. Bank Bldg., Los Angeles, Cal.
Dr. Charles Cross, 275 Post St., San Francisco, Cal.
Jr. Lieut. Dr. J. W. Crossman, U. S. N., 424 S. Broadway, Los Angeles, Cal.
Dr. A. H. Currie, Grosse Bldg., Los Angeles, Cal.
Dr. C. F. Curtis, 6523 Hollywood Blvd., Los Angeles, Cal.
Dr. Wm. Hardy Daniel, Sisters' Hospital, Los Angeles, Cal.
Dr. Arthur L. Davis, 86 Post St., San Francisco, Cal.
Dr. C. W. Decker, Marsh-Strong Bldg., Los Angeles, Cal.
1st Lieut. Dr. Victor D'Ercole, 303A Columbus Ave., San Francisco.
Dr. C. F. Dickenson, Rowell Bldg., Fresno, Cal.
Jr. Lieut. Dr. Albert Robb Dickson, U. S. N., 1414 S. Hope St., Los Angeles, Cal.
Dr. E. H. Diehl, N. Main St., Artesia, Cal.
1st Lieut. Dr. A. B. Diepenbrock, 2315 M St., Sacramento, Cal.
Dr. H. H. Dignan, 275 Post St., San Francisco, Cal.
Dr. G. P. Dillon, Ochsner Bldg., Sacramento, Cal.
Dr. F. J. Dingeman, Watts Bldg., San Diego, Cal.
1st Lieut. Howard Dixon, M. D., 420 Mission Road, Daly City, San Mateo Co., Cal.
Dr. R. M. Dodsworth, 451 W. Ocean Ave., Long Beach, Cal.
1st Lieut. Dr. Paul E. Dolan, Livermore, Cal.
Dr. R. H. Donnell, U. S. N., American Nat. Bk. Bldg., San Diego, Cal.
Dr. R. J. Dowdall, 240 Stockton St., San Francisco, Cal.
Lieut. Dr. S. R. Downing, U. S. A., Berkeley Nat. Bk. Bldg., Berkeley, Cal.
Dr. E. Dozier, U. S. A., Masonic Bldg., Redding, Cal.
Dr. R. G. Dufficy, McNear-Cochrane Bldg., San Rafael, Cal.
Dr. F. Dunlap, Brawley, Cal.
Dr. W. L. Dunn, 3026 Grove St., Oakland, Cal.
Dr. D. Dwire, San Pedro Bank Bldg., San Pedro, Cal.
Dr. F. B. Dwire, Palm Ave., Gardena, Cal.
Dr. A. E. Edgerton, Elks Bldg., Stockton, Cal.
Dr. Henry Ehlers, Fowler, Cal.
Dr. W. L. Ellis, Calexico, Cal.
Major Dr. Leo Eloesser, 135 Stockton St., San Francisco, Cal.
Capt. Dr. Leonard W. Ely, Lane Hospital, San Francisco, Cal.
Dr. Michael H. Etcheverry, 391 Sutter St., San Francisco, Cal.
Dr. G. H. Evans, 233 Post St., San Francisco, Cal.
Dr. Joseph Gamewell Evans, Hotel Clark, Los Angeles, Cal.
Dr. F. D. Fairchild, U. S. A., 4521 Central Ave., Los Angeles, Cal.
Dr. Fred. R. Fairchild, Woodland, Cal.
Dr. E. H. Falconer, 516 Sutter St., San Francisco, Cal.
Dr. G. H. Fay, East Auburn, Cal.
Lieut. Dr. J. C. Ferbert, U. S. N., 222 Bradbury Bldg., Los Angeles, Cal.
Dr. D. B. Fields, Weaverville, Cal.
Dr. A. P. Finan, Suisun, Cal.
Dr. H. M. Fine, Physicians' Bldg., Oakland, Cal.
Dr. E. S. Fish, U. S. A., Laughlin Bldg., Los Angeles, Cal.
Capt. Dr. A. L. Fisher, U. S. A., 126 Stockton St., San Francisco, Cal.
1st Lieut. Dr. E. B. Fitzpatrick, Martinez, Cal.
1st Lieut. Cuthbert Fleissner, M. D., Galen Bldg., San Francisco, Cal.
Dr. O. P. Floreth, Dixon, Cal.
Lieut. Dr. Harry E. Foster, U. S. A., The Cutter Laboratory, Berkeley, Cal.
Dr. H. Ed. Franck, 5464 College Ave., Oakland, Cal.
Capt. Dr. J. B. Frankenheimer, U. S. A., 240 Stockton St., San Francisco, Cal.
Dr. Blake Franklin, Lemoore, Cal.
Dr. J. H. Franklin, Guadalupe, Cal.
1st Lieut. Dr. L. A. Frary, 5250 Desmond St., Oakland, Cal.
Dr. M. W. Fraser, U. S. A., Lemoncove, Cal.
Dr. W. Friedberger, Theater Bldg., Stockton, Cal.
Dr. Lowell C. Frost, 6422 Hollywood Blvd., Los Angeles, Cal.
Dr. H. M. Gallagher, Marsh-Strong Bldg., Los Angeles, Cal.
Dr. J. T. Gardner, Santa Margarita, Cal.
Capt. Dr. C. L. Garvin, Randsburg, Cal.
Capt. Dr. F. M. Gedney, 1940 Scott St., San Francisco, Cal.
1st Lieut. Dr. Clain F. Gelston, University Hospital, San Francisco.
1st Lieut. Dr. Edw. G. Ghidella, 460 Columbus Ave., San Francisco.
Dr. M. R. Gibbons, 350 Post St., San Francisco, Cal.
Dr. A. Gibson, Alturas, Cal.
Dr. P. K. Gilman, 350 Post St., San Francisco, Cal.
Capt. Dr. F. R. Girard, U. S. A., 240 Stockton St., San Francisco, Cal.
Dr. C. A. Glover, 126 Stockton St., San Francisco, Cal.
Dr. L. J. E. Gouguet, Morehead Bldg., Chico, Cal.
Capt. Dr. Joseph Foster Grant, Spreckels Bldg., San Diego, Cal.
Dr. A. E. Gray, Marysville, Cal.
Dr. J. Green, 133 Geary St., San Francisco, Cal.
Dr. Earl Greenwood, St. Francis Hospital, San Francisco, Cal.
Dr. Chas. F. Griffin, 2804 Folsom St., San Francisco, Cal.
Dr. H. Gunn, 240 Stockton St., San Francisco, Cal.
Dr. S. L. Haas, 210 Post St., San Francisco, Cal.
Dr. W. J. Haber, 177 Post St., San Francisco, Cal.
Dr. Robt. Kells Hackett, 1752½ N. Vermont Ave., Los Angeles, Cal.
Dr. R. Hagan, Broadway Cen. Bk. Bldg., Los Angeles, Cal.
1st Lieut. Dr. Nathan George Hale, Capital Nat. Bk. Bldg., Sacramento, Cal.
1st Lieut. Dr. C. Hall, 7th and Henry Sts., Oakland, Cal.
Capt. Dr. J. U. Hall, Theater Bldg., San Jose, Cal.
Lieut. Dr. J. K. Hamilton, U. S. A., Encinal Hall, Bay Station, Alameda, Cal.
Dr. M. P. Hamrick, R. F. D. No. 3, Anaheim, Cal.
Dr. M. C. Harding, Timken Bldg., San Diego, Cal.
Dr. C. B. Hare, Bank of San Jose Bldg., San Jose, Cal.
Dr. C. S. Harris, U. S. A., 209 Post St., San Francisco, Cal.
Dr. Frank R. Hart, Pacific Grove, Cal.
Dr. L. Hart, Title Ins. Bldg., Los Angeles, Cal.
Dr. Ernest D. Hatch, 1030 Post St., San Francisco, Cal.
Dr. G. G. Hawkins, Ione, Cal.
Dr. B. F. Hayden, Soldiers' Home, Los Angeles, Cal.
Dr. Geo. L. Helms, 2404 Washington St., San Francisco, Cal.
Dr. G. S. Herbert, Santa Paula, Cal.
Dr. G. K. Herzog, 133 Geary St., San Francisco, Cal.
Dr. A. W. Hewlett, Lane Hospital, San Francisco, Cal.
Dr. O. H. Hoag, 3307 Mission St., San Francisco, Cal.
Dr. C. L. Hoag, 126 Stockton St., San Francisco, Cal.
Dr. H. V. Hoffman, 210 Post St., San Francisco, Cal.
Dr. R. L. Hogg, Saratoga, Cal.
Dr. Henry A. Holt, 1818 Walworth Ave., Pasadena, Cal.
Dr. Rufus A. Holt, 1329 Crown Hill Ave., Los Angeles, Cal.
Jr. Lieut. Dr. R. W. Homer, U. S. N., Ventura, Cal.
Dr. H. Horn, 209 Post St., San Francisco, Cal.
Dr. W. J. Hosford, 1410 Park Ave., Alameda, Cal.
Dr. G. Hoskins, Ferndale, Cal.
Dr. A. J. Houston, 350 Post St., San Francisco, Cal.
Dr. E. C. Houston, Bieber, Cal.
Capt. Dr. L. P. Howe, 516 Sutter St., San Francisco, Cal.
Dr. Edgar H. Howell, 209 Post St., San Francisco, Cal.
Dr. Walter O. Howell, 3802 Mission St., San Francisco, Cal.
Dr. A. B. Hromadka, Bank Bldg., Sawtelle, Cal.
Dr. G. M. Hubbell, Los Gatos, Cal.
Dr. G. R. Hubbell, U. S. A., 516 Sutter St., San Francisco, Cal.
Dr. S. J. Hunkin, 1155 Bush St., San Francisco, Cal.
Dr. T. W. Huntington, 516 Sutter St., San Francisco, Cal.
Dr. R. K. Hutchings, Head Bldg., San Francisco, Cal.
Dr. O. C. Hyde, Lincoln, Cal.
Dr. T. G. Inman, 240 Stockton St., San Francisco, Cal.
Capt. Dr. R. B. Irones, U. S. A., Timken Bldg., San Diego, Cal.
Dr. John C. Irwin, Hollingsworth Bldg., Los Angeles, Cal.
Dr. Benj. Jablons, St. Francis Hospital, San Francisco, Cal.
Dr. P. K. Jackson, San Luis Obispo, Cal.
1st Lieut. Dr. Wm. J. Jackson, 1511 Masonic Ave., San Francisco.
Dr. M. D. W. Jeffs, 3519 Central Ave., Los Angeles, Cal.
Dr. E. O. Jellinek, 135 Stockton St., San Francisco, Cal.
Dr. C. A. Johnson, L. A. Investment Bldg., Los Angeles, Cal.
Dr. L. R. Johnson, Com. & Sav. Bk. Bldg., Stockton, Cal.
Dr. W. S. Johnson, 350 Post St., San Francisco, Cal.
Dr. J. R. Jones, Yreka, Cal.
Dr. R. M. Jones, Jr., Rowell Bldg., Fresno, Cal.
Dr. J. J. Kavanagh, 210 Post St., San Francisco, Cal.
Dr. C. W. Kellogg, Hopkins Bldg., Bakersfield, Cal.
Dr. P. S. Kellogg, Norwalk, Cal.
Dr. M. R. Kennedy, Eagleville, Cal.
Dr. J. T. Kergan, 1225 Washington St., Oakland, Cal.
Dr. A. N. Kerr, Hawthorne, Hawthorne and Raymond, Cal.
Dr. W. J. Kerr, Bodega Ave., Sebastopol, Cal.
Dr. Henry S. Keyes, 803 Macy St., Los Angeles, Cal.

Dr. H. N. Kierulff, 2601 Fulton St., Berkeley, Cal.
Major Dr. E. S. Kilgore, University Hospital, San Francisco, Cal.
Dr. L. C. Kinney, 415 Elm St., San Diego, Cal.
Major Dr. W. L. Kneedler, Coronado, Cal.
Dr. H. H. Koons, Brockman Bldg., Los Angeles, Cal.
Dr. F. W. Kroll, 240 Stockton St., San Francisco, Cal.
Dr. Harry Peter Krummes, U. S. N., 291 Geary St., San Francisco, Cal.
Dr. J. J. Kyle, Title Ins. Bldg., Los Angeles, Cal.
Dr. Harry L. Langnecker, Lane Hospital, San Francisco, Cal.
1st Lieut. Dr. F. M. Lawson, Barceloux Bldg., Willows, Cal.
Dr. Robert T. Legge, 3016 Benvenue Ave., Berkeley, Cal.
Dr. L. M. Leisenring, Placerville, Cal.
Dr. T. B. Leland, U. S. N., 86 Post St., San Francisco, Cal.
Dr. Walter E. Leonard, Marsh-Strong Bldg., Los Angeles, Cal.
Major Dr. C. G. Levison, U. S. A., Physicians Bldg., San Francisco, Cal.
Dr. C. E. Lewis, Calistoga, Cal.
Dr. W. J. Lewis, 310 California St., Ventura, Cal.
Dr. T. C. Little, U. S. N., American Nat. Bk. Bldg., San Diego, Cal.
Dr. Chas. D. Lockwood, Wadsworth Bldg., Pasadena, Cal.
Major Dr. Edw. S. Loizeaux, 903 I St., Sacramento, Cal.
1st Lieut. Dr. Melville H. Long, 21 Buena Vista Ave., San Francisco, Cal.
Capt. Dr. S. M. Long, 435 J St., Fresno, Cal.
Dr. T. S. Long, Cambria, Cal.
Major Dr. H. C. Loos, Timken Bldg., San Diego, Cal.
Dr. F. K. Lord, Camptonville, Cal.
Dr. C. H. Lowell, Union Oil Bldg., Los Angeles, Cal.
Dr. Jas. B. Luckie, Dodworth Bldg., Pasadena, Cal.
Dr. W. T. Lum, 1361 Park Ave., Alameda, Cal.
Dr. J. G. Lynch, Baker-Detwiler Bldg., Los Angeles, Cal.
Dr. Wm. Carston Lynch, Niles, Cal.
Capt. Dr. G. J. McChesney, U. S. A., 350 Post St., San Francisco, Cal.
Dr. C. L. McClish, 1760 W. Adams St., Los Angeles, Cal.
Dr. A. D. S. McCoy, Slavin Bldg., Pasadena, Cal.
Dr. F. E. McCullough, Lincoln, Cal.
Dr. A. B. McKee, U. S. N., Flood Bldg., San Francisco.
Capt. Dr. A. C. McKenney, U. S. A., 126 Stockton St., San Francisco, Cal.
Dr. J. E. McKillop, Main and Walnut Sts., Huntington Beach, Cal.
Dr. A. D. McLean, Exeter, Cal.
Dr. F. P. McManus, Hercules, Cal.
Dr. W. F. McNutt, Jr., 135 Stockton St., San Francisco, Cal.
Dr. G. C. H. McPheeters, Leighton Bldg., Riverside, Cal.
Dr. D. M. McRae, Wayne Apts., Telegraph Ave., Oakland, Cal.
Dr. L. R. Mace, 1244 Gardner St., Hollywood, Cal.
Dr. C. W. Mack, Livermore, Cal.
Dr. A. C. Macleish, Brockman Bldg., Los Angeles, Cal.
Lieut. Dr. A. C. Magee, Watts Bldg., San Diego, Cal.
Dr. O. L. Magee, El Monte, Cal.
1st Lieut. Dr. A. F. Maine, Dalziel Bldg., Oakland, Cal.
Dr. F. R. Makinson, Thomson Bldg., Oakland, Cal.
Dr. P. A. Makinson, Thomson Bldg., Oakland, Cal.
Lieut. Dr. S. H. Marks, U. S. A., Pittsburg, Cal.
Dr. M. Y. Marshall, Bakersfield, Cal.
Dr. D. L. Martin, Hicks Bldg., Orland, Cal.
Dr. E. E. Martin, Gridley, Cal.
Dr. H. G. Marvmiller, Baker-Detwiler Bldg., Los Angeles, Cal.
Dr. F. C. E. Mattison, Cham. of Com. Bldg., Pasadena, Cal.
Dr. S. J. Mattison, Citizens' Sav. Bk. Bldg., Pasadena, Cal.
Dr. A. M. Meads, Thomson Bldg., Oakland, Cal.
Dr. Benj. E. Merrill, 128 N. 10th St., Santa Paula, Cal.
Dr. J. A. Metzger, 327 Carroll Park, Long Beach, Cal.
Dr. W. P. Milliken, 3858 Howe St., Oakland, Cal.
Dr. A. L. Miller, Marysville, Cal.
Dr. Byron Young Miller, San Luis Obispo, Cal.
Lieut. Dr. F. W. Miller, U. S. N., Mer. Nat. Bk. Bldg., Los Angeles, Cal.
1st Lieut. Dr. Sol. C. Mish, 111 Ellis St., San Francisco, Cal.
Dr. P. A. Mix, Exeter, Cal.
1st Lieut. Dr. G. H. Mize, 146 Grant Ave., San Francisco, Cal.
Dr. H. C. Moffitt, U. S. A., 240 Stockton St., San Francisco, Cal.
Dr. E. C. Moore, Mer. Nat. Bk. Bldg., Los Angeles, Cal.
Dr. H. S. Moore, 209 Post St., San Francisco, Cal.
Dr. J. R. Moore, Brockman Bldg., Los Angeles, Cal.
Dr. Wm. L. Moore, 2421 Sutter St., San Francisco, Cal.
Dr. W. D. Moore, Anderson Bldg., San Pedro, Cal.
Dr. Chas. E. Mordoff, c/o S. Cal. Edison Co., Kernville, Cal.
1st Lieut. Dr. Jas. W. Morgan, 848 10th St., Modesto, Cal.
Dr. N. D. Morgan, 135 Stockton St., San Francisco, Cal.
Dr. Chas. Lynn Morris, San Dimas, Cal.
Dr. H. E. Morrison, Dixon, Cal.
Dr. N. D. Morrison, 273 B St., San Mateo, Cal.
Dr. W. A. Morrison, Kerckhoff Bldg., Los Angeles, Cal.
1st Lieut. Dr. Geo. Morton, 215 Kearny St., San Francisco, Cal.
Lieut. Dr. L. B. Morton, U. S. N., Brockman Bldg., Los Angeles, Cal.
Dr. J. Mora Moss, 146 Grant Ave., San Francisco, Cal.
Dr. F. W. Muller, Sefton Bldg., San Diego, Cal.
1st Lieut. Dr. A. L. Munger, Jr., 1021 10th St., Sacramento, Cal.
Dr. Vance Bishop Murray, U. S. Marine Hospital, San Francisco, Cal.
Dr. A. J. Murrieta, Brockman Bldg., Los Angeles, Cal.
Dr. H. C. Naffziger, 291 Geary St., San Francisco, Cal.
Dr. E. A. Newton, Marsh-Strong Bldg., Los Angeles, Cal.
Dr. John G. Norman, Alleghany, Cal.
Dr. O. D. Norton, U. S. N., Santa Barbara, Cal.
1st Lieut. Dr. H. P. Nottage, 1361 Park St., Alameda, Cal.
Dr. J. T. O'Brien, 803 Kentucky St., Petaluma, Cal.
Dr. Earl Wm. O'Donnell, U. S. A., 203 Church St., San Francisco, Cal.
Dr. F. J. T. Old, Baker-Detwiler Bldg., Los Angeles, Cal.
Jr. Lieut. Dr. W. H. Olds, Consolidated Realty Bldg., Los Angeles, Cal.
Major Dr. H. R. Oliver, 135 Stockton St., San Francisco, Cal.
Dr. Bernard J. O'Neill, U. S. N., Amer. Nat. Bk. Bldg., San Diego, Cal.
Dr. T. J. Orbison, Brockman Bldg., Los Angeles, Cal.
Dr. T. W. O'Reilly, Baker-Detwiler Bldg., Los Angeles, Cal.
Dr. Carl S. Owen, 1206 National Ave., National City, Cal.
Dr. J. C. Paine, Exeter, Cal.
Dr. H. P. Palmer, Vacaville, Cal.
Jr. Lieut. Dr. Victor Parkin, U. S. N., Patton, Cal.
1st Lieut. Dr. J. H. Parkinson, 1005 K St., Sacramento, Cal.
Dr. R. H. Parkinson, 391 Sutter St., San Francisco, Cal.
Capt. Dr. J. A. Parks, U. S. A., La Mesa, Cal.
Dr. A. Patterson, Mountain View, Cal.
Dr. John E. Paulson, San Quentin, Cal.
Dr. C. A. Pauson, 350 Post St., San Francisco, Cal.
1st Lieut. Dr. S. Z. Peoples, 159 Kentucky St., Petaluma, Cal.
Dr. L. G. Petch, Weaverville, Cal.
Lieut. Dr. T. R. Petch, Connick & Sinclair Bldg., Eureka, Cal.
Dr. E. A. Peterson, 321 Georgia St., Vallejo, Cal.
Dr. C. Pius, Montague, Cal.
1st Lieut. Dr. V. H. Podstata, Livermore, Cal.
Dr. J. L. Pomeroy, County Court House, Los Angeles, Cal.
Dr. G. S. Porter, 227 W. 40th Pl., Los Angeles, Cal.
Dr. L. Porter, 240 Stockton St., San Francisco, Cal.
Dr. T. C. Pounds, U. S. N., Amer. Nat. Bk. Bldg., San Diego, Cal.
Dr. A. Powell, Thayer Bldg., Oakland, Cal.
Dr. H. D. Power, 240 Stockton St., San Francisco, Cal.
Dr. L. D. Prince, 350 Post St., San Francisco, Cal.
Lieut. Dr. J. F. Pruett, 516 Sutter St., San Francisco, Cal.
Dr. W. E. Purviance, 742 Kingsley Drive, Los Angeles, Cal.
Dr. V. E. Putnam, 290 Divisadero St., San Francisco, Cal.
Dr. C. Quinan, 391 Sutter St., San Francisco, Cal.
Dr. J. K. Ransom, Newman, Cal.
Capt. Dr. W. R. Ream, Watts Bldg., San Diego, Cal.
Dr. F. B. Reardan, Box 203, Turlock, Cal.
Dr. W. A. Reed, Covina, Cal.
1st Lieut. Dr. W. P. Reeves, Spreckels, Cal.
Lieut. Dr. John Morse Rehfisch, U. S. A., Dept. of Pathology, University of California, Berkeley, Cal.
Dr. A. H. Reinstein, 146 Grant Ave., San Francisco, Cal.
Dr. L. D. Remington, Monrovia Sav. Bk. Bldg., Monrovia, Cal.
Dr. Jas. R. Reuling, Jr., S. F. Hospital, San Francisco, Cal.
Capt. Dr. H. B. Reynolds, U. S. A., Frazer Bldg., Palo Alto, Cal.
Dr. C. M. Richards, Garden City Bank Bldg., San Jose, Cal.
Capt. Dr. G. H. Richardson, 2917 Clay St., San Francisco, Cal.
Lieut. Dr. W. W. Richardson, U. S. A., Brockman Bldg., Los Angeles, Cal.
Dr. J. J. Richstein, 391 Sutter St., San Francisco, Cal.
Dr. Robt. L. Rierson, 1540 San Pablo Ave., Oakland, Cal.
Dr. E. Rixford, U. S. N., 1795 California St., San Francisco, Cal.
Dr. B. Robbins, Hanford, Cal.
Dr. W. H. Roberts, 461 E. Colorado St., Pasadena, Cal.
Dr. W. W. Roblee, Glenwood Blk., Riverside, Cal.
Dr. Alexander S. Rochester, 414 Laughlin Bldg., Los Angeles, Cal.
Dr. Wm. Donald Rolph, 764 Main St., Riverside, Cal.
Dr. G. Rothganger, 4501 San Pablo Ave., Oakland, Cal.
Dr. H. E. Ruggles, 233 Post St., San Francisco, Cal.
Dr. Wm. Ashford Sampson, U. S. A., 350 Post St., San Francisco, Cal.
Dr. L. B. Sandall, U. S. Indian Service, Santa Ysabel, Cal.
1st Lieut. Dr. J. P. Sandholt, Kennett, Cal.
Dr. B. F. Sandow, 297 Lee St., Oakland, Cal.
Dr. L. J. Schermerhorn, Belding Bldg., Stockton, Cal.
Dr. H. J. Schlageter, 240 Stockton St., San Francisco, Cal.
Dr. L. S. Schmitt, 135 Stockton St., San Francisco, Cal.
Dr. C. E. Schoff, Davis, Cal.
Dr. Chas. Edw. Schwartz, 246 Powell St., San Francisco, Cal.
Dr. W. R. Scroggs, Pillow Bldg., Richmond, Cal.
Dr. H. W. Seager, L. A. Investment Bldg., Los Angeles, Cal.
Dr. F. M. Seibert, Mayfield, Cal.
Dr. Martin J. Seid, Alcatraz Island, Cal.
Dr. L. G. Seidenfeld, French Hospital, San Francisco, Cal.
Dr. G. W. Sevenman, 27 Griffith St., San Mateo, Cal.
1st Lieut. Dr. M. A. Shade, 1st Sav. Bk. Bldg., Oakland, Cal.
Dr. B. Shelton, 5th and E Sts., San Diego, Cal.
Dr. H. M. Sherman, 350 Post St., San Francisco, Cal.
Dr. H. H. Sherk, 268 S. Orange Grove Ave., Pasadena, Cal.
Dr. G. F. Shields, 291 Geary St., San Francisco, Cal.
Dr. J. W. Shields, Physicians Bldg., San Francisco, Cal.
Dr. R. H. Shippey, U. S. A., 1135 Chestnut St., Long Beach, Cal.
Dr. E. D. Shortlidge, 209 Post St., San Francisco, Cal.
Dr. L. Shulman, 845 S. Hill St., Los Angeles, Cal.

Major Dr. H. Sidebotham, U. S. A., 1936 Laguna St., Santa Barbara, Cal.
Dr. C. A. Smalley, Wright & Callender Bldg., Los Angeles, Cal.
Capt. Dr. R. Smart, U. S. A., 1100 8th St., Coronado, Cal.
Dr. A. C. Smiley, Venice, Cal.
Dr. A. W. Smith, Y. M. C. A. Bldg., Pasadena, Cal.
Dr. C. E. Smith, Oakdale, Cal.
Dr. F. J. Smith, Point Loma, Cal.
Dr. John J. Smith, Head Bldg., Post and Grant Ave., San Francisco, Cal.
Dr. Lynn C. Smith, Madeline, Cal.
Dr. R. Smith, U. S. N., Brockman Bldg., Los Angeles, Cal.
Dr. R. L. I. Smith, 40 E. Colorado St., Pasadena, Cal.
Dr. H. Smythe, Com. & Sav. Bk. Bldg., Stockton, Cal.
Capt. Dr. A. D. Snyder, Corning, Cal.
Dr. G. S. Snyder, 210 Post St., San Francisco, Cal.
Dr. A. Soiland, 527 W. 7th St., Los Angeles, Cal.
Dr. J. B. Spalding, 246 Powell St., San Francisco, Cal.
Dr. F. F. Sprague, Los Banos, Cal.
Dr. Ed. F. Stadtherr, 208-14 San Jose B. B., San Jose, Cal.
Dr. K. J. Staniford, Rowell Bldg., Fresno, Cal.
Dr. J. Steinberg, Hotel Howard, 805 E. 5th St., Los Angeles, Cal.
1st Lieut. Dr. Henry A. Stephenson, 2299 Sacramento St., San Francisco.
Dr. S. Stillman, 2101 Webster St., San Francisco, Cal.
Dr. H. R. Stolz, Palo Alto, Cal.
Dr. W. J. Stone, Cheda Bldg., San Rafael, Cal.
Capt. Dr. Byron P. Stookey, Storey Bldg., Los Angeles, Cal.
Dr. L. Stoval, 1201½ Central Ave., Los Angeles, Cal.
1st Lieut. Dr. O. P. Stowe, Keystone Bldg., Mill Valley, Cal.
Lieut. Dr. W. I. Sunburnt, 714 M St., Sacramento, Cal.
Dr. E. L. H. Swift, Jonathan Club, Los Angeles, Cal.
Dr. R. B. Sweet, Marine Bk. Bldg., Long Beach, Cal.
Dr. Fred. Boyd Tapley, Marysville, Cal.
Dr. W. A. Tarleton, 224 S. Spring St., Los Angeles, Cal.
Dr. G. H. Taubles, 323 Geary St., San Francisco, Cal.
Dr. W. E. Tebbe, Weed, Cal.
Dr. R. L. Tebbitt, Haas Bldg., Los Angeles, Cal.
Dr. J. Temple, Union Tr. Sav. Bk. Bldg., Santa Rosa, Cal.
Capt. Dr. W. I. Terry, 240 Stockton St., San Francisco, Cal.
Dr. B. Thomas, University Ave., Palo Alto, Cal.
Jr. Lieut. Dr. R. W. Thomas, U. S. N., Spreckels Bldg., San Diego, Cal.
Dr. H. A. Thompson, U. S. N., 5th and Beech Sts., San Diego, Cal.
Dr. H. S. Thomson, 2539 College Ave., Berkeley, Cal.
Dr. I. W. Thorne, U. S. N., 2101 Webster St., San Francisco, Cal.
Dr. J. Thornton, 1297 Elysian Park Drive, Los Angeles, Cal.
Lieut. Dr. T. E. Tillman, U. S. A., 126 Stockton St., San Francisco, Cal.
Dr. P. A. Tobin, Fresno, Cal.
Dr. Geo. P. Tolman, Grass Valley, Nevada Co., Cal.
Dr. E. N. Torello, 4263 Mission St., San Francisco, Cal.
Dr. F. P. Topping, 240 Stockton St., San Francisco, Cal.
Dr. C. L. Tranter, 126 Stockton St., San Francisco, Cal.
Dr. Edw. E. Tredway, 417 N. Lake Ave., Pasadena, Cal.
Dr. R. B. Tupper, 177 Post St., San Francisco, Cal.
Major Dr. E. C. Turner, 1021 10th St., Sacramento, Cal.
Dr. A. M. Tweedie, U. S. N., Newport Beach, Cal.
Dr. A. H. Vance, 1039 Water St., Sausalito, Cal.
Dr. B. H. Viau, U. S. N., Fresno Co. Hospital, Fresno, Cal.
Major Dr. H. L. Wagner, 518 Sutter St., San Francisco, Cal.
Dr. C. A. Walker, 504 Valencia St., San Francisco, Cal.
Dr. G. P. Waller, Jr., Black Shop Bldg., Los Angeles, Cal.
Dr. C. A. Warmer, 111 N. Euclid Ave., Ontario, Cal.
Dr. D. D. Weaver, Thomson Bldg., Oakland, Cal.
Dr. D. P. Webster, Westwood, Cal.
Major Dr. A. Weeks, 350 Post St., San Francisco, Cal.
Dr. P. Wegefarth, San Diego, Cal.
Dr. E. Le R. Wemple, 391 Sutter St., San Francisco, Cal.
Lieut. Dr. A. B. Wessels, Timken Bldg., San Diego, Cal.
Dr. C. W. West, Elko, Nevada.
Dr. S. V. West, Santa Ana, Cal.
Dr. C. G. Wharton, 607 S. Hill St., Los Angeles, Cal.
Dr. F. M. Whiting, 324½ Myers St., Oroville, Cal.
Capt. Dr. J. L. Whitney, U. S. A., University Cal. Hospital, San Francisco, Cal.
Dr. T. F. Wier, U. S. N., 415 Elm St., San Diego, Cal.
Dr. G. B. Wilcox, 20 Franklin St., San Francisco, Cal.
Dr. E. H. Wiley, Brockman Bldg., Los Angeles, Cal.
Capt. Dr. A. J. Wilkinson, Timken Bldg., San Diego, Cal.
Dr. H. J. Willey, Porterville, Cal.
Dr. F. T. Williams, 2124 California St., San Francisco, Cal.
Dr. H. De N. Williams, 3207 Mission St., San Francisco, Cal.
Dr. R. B. Williams, 135 Stockton St., San Francisco, Cal.
Dr. T. M. Williams, Bryant and Hamilton Sts., Palo Alto, Cal.
Dr. M. A. Williamson, Lone Pine, Cal.
Dr. N. E. Williamson, Stockton State Hospital, Stockton, Cal.
Capt. Dr. C. A. Wills, U. S. A., County Infirmary, San Leandro, Cal.
Dr. E. E. Wilson, Walnut Grove, Cal.
Dr. H. P. Wilson, Whittier Nat. Bk. Bldg., Whittier, Cal.
Dr. L. J. Wilson, Sebastopol, Cal.
Dr. P. W. Wilson, 218 E. Philadelphia St., Whittier, Cal.
Dr. F. E. Winter, Santa Ana, Cal.
Dr. W. H. Winterberg, 516 Sutter St., San Francisco, Cal.
Lieut. Dr. H. H. Wolfe, Albion, Cal.
Dr. J. M. Wolfsohn, 177 Post St., San Francisco, Cal.
Dr. A. G. Woodward, 3002A Stephenson Ave., Los Angeles, Cal.
Dr. F. A. Woodward, 2488½ W. Pico St., Los Angeles, Cal.
Dr. John Homer Woolsey, 5677 Ocean View Ave., Oakland, Cal.
Dr. H. F. Worley, Bacon Bldg., Oakland, Cal.
Dr. Harold W. Wright, 516 Sutter St., San Francisco, Cal.
Dr. H. W. Yemans, U. S. A., Western Dept., San Francisco, Cal.
Dr. J. A. Young, Oakdale, Cal.
Dr. L. H. Young, 108 Burrows St., San Francisco, Cal.
Dr. Oscar O. Young, Garden Grove, Cal.
Dr. Harold Zimmerman, Sacramento, Cal.
Dr. D. W. Zirker, Merced, Cal.
Lieut. Dr. Clarence L. Bittner, Sacramento, Cal.
Dr. A. Allen, U. S. A., 662 W. 60th St., Los Angeles, Cal.
Dr. Frank Ashmore, Polyclinic Hospital, 1535 Jackson St., San Francisco, Cal.
Dr. Z. A. Barker, U. S. N., 320 Market St., San Francisco, Cal.
Dr. D. S. Baughman, U. S. Marine Hospital, San Francisco, Cal.
Dr. Wm. Wallace Behlow, 233 Post St., San Francisco, Cal.
Dr. G. J. Bergener, 516 Sutter St., San Francisco, Cal.
Dr. J. B. Bostick, U. S. N., 1534 1st St., San Diego, Cal.
Dr. F. J. Bryant, U. S. N., P. O. Bldg., Soledad, Cal.
Dr. W. C. Chidester, San Mateo, Cal.
1st Lieut. Dr. C. T. Devine, 1st Sav. Bk. Bldg., Oakland, Cal.
Dr. C. C Dickinson, U. S. A., McCloud, Cal.
Dr. Hiram Burton Duncan, 1638 Haight St., San Francisco, Cal.
Dr. Colonel Guy L. Edie, U. S. A., Presidio, San Francisco, Cal.
Major Dr. Frank S. Emmal, Physicians Bldg., San Francisco, Cal.
Dr. Edw. C. Ernst, Marine Hosp., San Francisco, Cal.
Dr. J. E. Fahy, 206 W. 10th St., Los Angeles, Cal.
Dr. D. C. Farnsworth, U. S. A., 2626 W. 9th St., Los Angeles, Cal.
Dr. Justin Keyser Fuller, U. S. N., 779 1st Ave., San Francisco, Cal.
Dr. T. C. Galloway, U. S. Marine Hospital, San Francisco, Cal.
Dr. Edw. R. Guinan, U. S. N., Ryland Bldg., San Jose, Cal.
Dr. Charles J. Harbeck, Fort Rosecrans, San Diego Co., Cal.
Dr. Frank Hinman, 516 Sutter St., San Francisco, Cal.
Dr. J. L. Howard, 135 Stockton St., San Francisco, Cal.
Dr. F. M. Hull, 416 E. 20th St., Los Angeles, Cal.
Dr. R. H. Hunt, U. S. N., P. O. Box 68, La Jolla, Cal.
Capt. Dr. C. W. Lippman, U. S. A., 135 Stockton St., San Francisco, Cal.
Dr. Parker, U. S. Marine Hosp., San Francisco, Cal.
Dr. I. W. Robbins, U. S. N., Training Station, Yerba Buena Island, Cal.
Dr. T. B. Roche, U. S. N., 126 Stockton St., San Francisco, Cal.
Dr. F. H. Rodenbaugh, U. S. N., 915 Ashbury St., San Francisco, Cal.
Dr. A. E. Rude, U. S. P. H. S., 240 Stockton St., San Francisco, Cal.
Dr. A. F. Sampson, 133 Geary St., San Francisco, Cal.
Dr. Henry H. Searls, U. S. N., Univ. Cal. Hosp., San Francisco, Cal.
Dr. Jas. M. Smithwick, Byron, Cal.
Dr. N. C. Trew, R. F. D. No. 5, Box 789, Los Angeles, Cal.
Dr. J. F. Worhey, U. S. P. H. S., U. S. Marine Hosp., San Francisco.
Dr. M. G. Worley, U. S. P. H. S., 912 Grant Ave., San Francisco, Cal.
Dr. J. G. Ziegler, U. S. N., Mare Island, San Francisco, Cal.

NOT IN ACTIVE SERVICE.

Dr. Herbert Williams Allen, 240 Stockton St., San Francisco, Cal.
Dr. J. Henry Barbat, 275 Post St., San Francisco, Cal.
Dr. James A. Black, 209 Post St., San Francisco, Cal.
Dr. Herbert I. Bloch, Physicians Bldg., San Francisco, Cal.
Dr. Philip King Brown, 516 Sutter St., San Francisco, Cal.
Dr. Frank B. Carpenter, 209 Post St., San Francisco, Cal.
Dr. Albert Cohen, 146 Grant Ave., San Francisco, Cal.
Dr. Arthur L. Davis, 86 Post St., San Francisco, Cal.
Dr. Leo Eloesser, 135 Stockton St., San Francisco, Cal.
Dr. George H. Evans, 233 Post St., San Francisco, Cal.
Dr. E. H. Falconer, 516 Sutter St., San Francisco, Cal.
Dr. Cuthbert Fleissner, Galen Bldg., San Francisco, Cal.
Dr. M. R. Gibbons, 350 Post St., San Francisco, Cal.
Dr. Chas. F. Griffin, 2804 Folsom St., San Francisco, Cal.
Dr. H. Gunn, 240 Stockton St., San Francisco, Cal.
Dr. H. Horn, 209 Post St., San Francisco, Cal.
Dr. G. R. Hubbell, 516 Sutter St., San Francisco, Cal.
Dr. S. J. Hunkin, 1155 Bush St., San Francisco, Cal.
Dr. T. W. Huntington, 516 Sutter St., San Francisco, Cal.
Dr. C. G. Levison, Physicians Bldg., San Francisco, Cal.
Dr. A. C. McKenney, 126 Stockton St., San Francisco, Cal.
Dr. W. F. McNutt, Jr., 135 Stockton St., San Francisco, Cal.
Dr. Sol. C. Mish, 111 Ellis St., San Francisco, Cal.
Dr. H. S. Moore, 209 Post St., San Francisco, Cal.
Dr. Wm. L. Moore, 2421 Sutter St., San Francisco, Cal.
Dr. H. D. Power, 240 Stockton St., San Francisco, Cal.
Dr. Alfred C. Reed, 350 Post St., San Francisco, Cal.
Dr. E. Rixford, 1795 California St., San Francisco, Cal.
Dr. R. B. Williams, 135 Stockton St., San Francisco, Cal.

State Board of Health

DECEMBER MEETING.

The State Board of Health met in Sacramento on December 1, 1917. The members present were: Dr. George E. Ebright, president, and Drs. Fred F. Gundrum, Edward F. Glaser, Adelaide Brown, Robert A. Peers and Wilbur A. Sawyer.

The Board approved the action of the Secretary in making a temporary appointment of Dr. Chesley Bush of Colfax as Tuberculosis Expert for the purpose of examining and advising men who had been rejected at the time of the selective draft and who resided in parts of the State where local tuberculosis experts were not available.

The Board appointed Mr. Arthur M. Bean as Assistant Biologist in the Division of Biology of the Bureau of Communicable Diseases on a full time basis in order that the hookworm control work might be expedited.

On account of the rapid increase in the work of the Southern Branch Laboratory of the Bureau of Communicable Diseases in Los Angeles, the Board appointed Miss Lucy Powers as laboratory helper to assist the bacteriologist in charge.

The Board appointed Dr. W. A. Sawyer as a delegate to represent it at the Conference of Northwestern States on the Control of Venereal Diseases to be held in Tacoma, Washington, on December 10th and 11th.

The Committee on the appointment of a Sanitarian in the Bureau of Venereal Diseases reported that Dr. Walter M. Dickie of Los Angeles had been appointed on November 14, 1917. This completed the staff of the Bureau as originally planned.

Rules for the prevention of chickenpox, measles, German measles, mumps, whooping-cough, epidemic cerebrospinal meningitis and acute lobar pneumonia, were adopted. Also a set of rules for the prevention of smallpox was adopted. These sets of rules are printed in full in the Monthly Bulletin of the State Board of Health for January.

The Board, by resolution, in accordance with the provision of Chapter 744, Statutes of 1917, prescribed the following as an acceptable method of sterilizing drinking receptacles, which method may be used in place of sterilizing in boiling water or steam: The drinking receptacles shall be placed in a wire basket and immersed completely for a period of five minutes in a solution of not less than one pound of lye or caustic soda to each 2½ gallons of water, the lye being of standard commercial quality and containing not less than 96 per cent. of sodium hydrate. When practicable, the lye solution should be used hot. All traces of the lye should be removed by thorough rinsing before the glasses are handled.

The Board adopted the following additional rule for the enforcement of the new milk law, Chapter 576, Statutes of 1917:

"Rule 5. Counts of Bacteria. The method of ascertaining the number of bacteria in milk or cream shall be in accordance with the standard methods of the American Public Health Association for milk analysis."

The Training School for Nurses in connection with St. Catherine's Hospital at Santa Monica was placed on the list of accredited nurses' training schools for one year.

Certificates as registered nurses were granted to three candidates through reciprocity and to 184 nurses who had passed the examinations held by the Bureau of Nurses' Registration on October 18th and 19th in Sacramento, San Francisco and Los Angeles.

Licenses to operate cold storage warehouses were granted to three firms on the recommendation of the Bureau of Foods and Drugs. Citations had been sent out in 176 cases of alleged violations of the pure food and drugs acts. Hearings were held and many cases were referred to District Attorneys for prosecution.

W. A. SAWYER, Secretary.

A PRESSING QUESTION: SHALL WE USE OUR GRAIN FOR BREAD OR FOR BEER?

Last year approximately 3,000,000 tons of grain were used in breweries and distilleries. Most of this was millable grain. Careful calculations show that each million tons of grain is sufficient to supply a one-pound loaf of bread daily to six million people. Moreover, the fact must not be overlooked that the conversion of grain into alcohol, rather than into bread, represents a distinct loss of 50,000 tons of protein, for each million tons of grain.

No amount of sophistry regarding the food value of alcohol can overcome the fact of this absolute waste of an essential constituent of our food. Nor can it be contended that the protein of the grain is conserved by being converted into beef through the feeding of brewers' grain to cattle. The proportion thus salvaged has been allowed for in our calculations. The fact remains that the amount of protein irretrievably wasted in this country annually through the conversion of the grain into alcohol represents the protein needs of six million people for one year.

How much longer can we afford to waste valuable food materials on such an appalling scale!

POPULAR MEDICAL LECTURES.

Stanford University Medical School.

January 4, 1918: "The Control of Vice Diseases Among Troops Through Civil and Military Cooperation." Colonel L. U. Maus, U. S. Army.

January 18, 1918: "Surgery of the Present War." Dr. Leo Eloesser.

February 1, 1918: "Industrial Fatigue." Professor E. G. Martin.

February 15, 1918: "Food Poisoning from Canned Goods." Dr. E. C. Dickson.

March 1, 1918: "Recent Experiences of a Medical Man in the War Zone." Dr. William P. Lucas, Professor of Pediatrics, University of California.

March 15, 1918: "Circulation of the Blood." Illustrated with moving pictures. Dr. A. A. D'Ancona.

Notices

THE J. HENRY BARBAT PRIZE.

Dr. J. Henry Barbat, President of the Society, offers a cash prize of $50.00 for the best paper presented at the meeting at Del Monte in 1918. Papers on original subjects are to have preference. A jury of five members, appointed by the Council, will have final jurisdiction in the distribution of the prize.

INSURANCE STATISTICS.

The Statistical Bureau of Metropolitan Life Insurance Company, 1 Madison Avenue, New York City, invites physicians, public health and social workers to make use of its valuable collection of mortality statistics. These statistics present the principal causes of death among white and colored wage-earners in the United States and Canada. The material covers over ten million individuals for each of the six years, 1911 to 1916. Death rates are available for each race, by sex and by age period.

State Board of Medical Examiners.

ANNUAL TAX.

Section 2, chapter 81, statutes of 1917, providing for the levy of an annual registration fee of $2.00 is now operative and every holder of any form of certificate issued under any of the acts for the regulation of the practice of medicine or any form of the healing art in California, is called upon to remit $2.00 to the Board of Medical Examiners, Sacramento, California, prior to January 1, 1918, and annually thereafter. This section further provides for the automatic revocation of the certificate of one who fails to remit the $2.00 fee within sixty days after January 1 of each year, however the certificate so cancelled can be restored by the payment of a fee of $10.00 at a subsequent date and without requirement of an examination.

The office of the Board of Medical Examiners, although not required by statute so to do, has but recently mailed approximately 6,000 notices to licentiates calling attention to the amendment as above noted, and in a form letter urged the cooperation of the profession in an endeavor to perfect the office records in the instance of those licentiates whose records were destroyed by the fire which devastated San Francisco, in April, 1906, during which conflagration the records of the Board of Medical Examiners suffered "in extremis" while the records of the registration of all licentiates in the office of the county clerk of the City and County of San Francisco were destroyed.

The Board fortunately had access to a source of authentic information which made possible the restoration of a greater part of the records, however, there were many instances where exact dates were unobtainable or where typographical errors may have crept into the record.

Having in mind the necessity of authenticated data filed in the office, and realizing the ready response as well as cheerful assistance the profession always offers in matters of such vital importance, the office of the Board inclosed affidavit form 116 with the notice above mentioned.

True, the medical act provides no penalty fot failure of the individual to make such affidavit, however, we know the profession would realize that no change of the office record could possibly be made unless substantiated by an affidavit. Our surmise is substantiated by results so far obtained, for out of approximately 1,000 responses to date, there has been but one written complaint filed in the office of the Board.

There will be no future necessity of forwarding affidavits with the next annual notice, in as much as we feel assured that the ready response to our first appeal will afford sufficient information.

The number of licentiates who have moved to other states without keeping the Board informed as to their address, is much larger than expected and the office force is actively engaged in endeavoring to locate all who are listed as "address unknown" that they may be informed of the amendments to the California Medical Practice act and by compliance therewith keep their certificate in good standing. Many instances have arisen where individuals licensed under a specific name, have had their name changed through marriage or other process at law, without due notice thereof being filed with the office of the Board, and as a consequence reference to the directory, or inquiry at the office of the Board, fails to elicit information that the individual in question is entitled to practice in as much as no record of the name, as changed, appears in our office. This matter is of urgent importance to the specific licentiate who should return to the Board the certificate originally issued for proper endorsement and at the same time file the regular affidavit form, the change of name.

An unexpected problem has been thrust upon the legal department of the Board through the call to the colors of approximately 750 licentiates of California, some of whom even now may be "over seas," so located that mail cannot reach them for an extended period, with an added complication arising from conditions rendering impossible the forwarding of the $2.00 fee to the office of the Board. No provision for exemption of the payment of the annual registration fee was provided when the law passed the legislature and a call of California medical licentiates to foreign shores through the exigencies of war was not anticipated. While it is true that the majority of the medical reserve corps enlisted from California are not as yet on foreign soil, yet they are scattered to the four winds and as a consequence difficult to reach by mail. This problem is in the hands of the legal department of the Board for solution.

The Board will mail a printed **form receipt** for the $2.00 fee as fast as recorded, the printed form having been adopted as a rapid method of forwarding to the payee, an acknowledgment of the fee and further affording a carbon copy thereof for permanent filing in the office of the Board.

A new directory will be compiled on or about January 1, 1918, a copy of which will be forwarded to every licentiate paying the annual tax, and in as much as the directory heretofore published by the state medical society has been discontinued, we will endeavor to furnish in addition to the regular alphabetical arrangement of names, as much supplemental data as may be deemed of particular interest to the profession, or others who may feel the need of such a book for reference.

Supplements will be issued from time to time, noting therein the individuals licensed since the prior edition and, by filing the supplements with the original, all data in reference to licentiates will be immediately available.

FIRST SEMI-ANNUAL REPORT OF WAR COUNCIL OF THE AMERICAN RED CROSS.

The Red Cross War Council reports on the work of the Red Cross during the almost six months which have elapsed since its appointment by the President. Included are details as to collections on account of the War Fund and appropriations made from the Fund, up to November 1.

The growth of Red Cross activities among the suffering civilian populations in the different allied countries is, up to this time, the outstanding feature of Red Cross work in this war. The magnitude of the work in France is particularly impressive.

Up to date approximately $88,000,000 in cash has been collected for the War Fund. The demands, however, in Europe, are increasing with great rapidity and on the present basis of expenditure the $100,000,000 War Fund cannot last much beyond spring.

During this period the War Council appropriated from the War Fund (including $7,659,000 advanced to chapters for purchase of material and to be returned to the War Fund), $10,969,216.60 for work in the United States, as contrasted with the appropriation of $27,885,816.86 for work abroad, of which $20,601,240.47 was for use in France. There have been appropriated from funds restricted to specific purposes $1,417,625.74. As $7,659,000 advanced by the War Council is to be returned to

the War Fund the net appropriations amount to $32,613,659.20.

The total expenses of raising and collecting the War Fund are proving to be less than one per cent. The War Fund is deposited locally by the chapters and campaign committees. About 3,500 banks now hold these deposits, in the name of William G. McAdoo, Treasurer.

Forty-nine Army base hospital units and five for the Navy have been recruited, organized and equipped by the Red Cross. More than twelve of the Army units and two of the Navy units have now been mustered into their respective Medical Corps and are seeing service. The Red Cross has also organized 45 ambulance companies, with a total personnel of 5,580, all of which have been taken into the Army Medical Corps, some for service abroad, others for the camps and cantonments. A General Hospital, for the use of the Navy, has been established at Philadelphia. Convalescent homes have been built at Fort Oglethorpe and Fort McPherson, Georgia, and mobile laboratory cars are to be provided for use in case of emergencies at the camps.

Through its Sanitary Service, the Red Cross is co-operating with local health authorities in maintaining the best possible sanitary conditions in the zone just outside military jurisdiction at the trainings camps and cantonments. Twenty sanitary units have been organized for this purpose. It has continued its work of disaster relief during the war, and has rendered aid in 64 calamities. Recently a call for help for flood victims in Tientsin was answered by the dispatch of a relief expert to the city and the sending of $125,000.

Fourteen thousand Red Cross nurses have been enrolled for duty, and approximately 3,000 have already been called into active nursing service, of whom 2,000 are working abroad. A program for increasing the reserve of fully trained nurses for war service has been adopted, in concert with the Committee on Nursing of the Council of National Defense and other nursing authorities.

Millions of women have been mobilized for work on surgical dressings, hospital garments, refugee clothing, knitting garments, and comfort kits. It is estimated that the value of their work during the next twelve months will amount to nearly $40,000,000.

Since April 1, 1917, the Red Cross has sent abroad 13,336 cases of surgical dressings, hospital supplies and clothing, containing approximately 13,000,000 separate articles. It has promised to send 3,000,000 surgical dressings to France every month for the next six months.

Courses of instruction in elementary hygiene and home care of the sick, home dietetics, and first aid have been given throughout the United States. More than 34,000 women have completed the first of these courses, and 75,000 certificates of proficiency in first aid have been issued during the past year alone.

At National Headquarters in Washington a staff has been built up which included, on November 1, 1917, sixty-three officials, most of them business men and women of great experience in large affairs, who are working without payment of either salary or living expenses. Numerous others are either giving their time or are working for nominal pay. The membership has grown, since the war, from about 200,000 to more than 5,000,000. The salary list has been reduced since last July from about 700 to 425. Salaries have decreased also in average amount. Had the Red Cross been obliged to pay salaries to all the heads of departments at National Headquarters the present organization would have been impossible.

A new class of members, the Junior Red Cross, has been created for school children, who are admitted by school units, to a share in Red Cross membership and relief work upon payment of a membership fee of twenty-five cents per pupil.

The work of the Red Cross in Europe centers necessarily in France and Major Grayson M. P. Murphy, a member of the War Council, is head of the Commission to France and Commissioner for Europe. Headquarters are in Paris, in a building furnished free for the current year for the use of the Red Cross. The working staff in France numbers 864 persons, of whom only 347 are paid by the Red Cross. The others are volunteers, or are paid by their former employers or from funds privately subscribed, so that the average cost to the Red Cross is only about $300 per year for each worker.

The principal purposes of the work of the American Red Cross abroad may be summarized thus:

1. To do everything possible to assist our army and navy in insuring the health and comfort of American soldiers and sailors abroad, and
2. To relieve suffering among the armies and destitution among the civilian populations among our allies.

The establishment and maintenance in France of canteens, rest houses, recreation huts, and other means of supplying comforts in the armies of our allies have been the means of heartening them and keeping their men in the field until our men could become fully effective.

Work for the American Army is the first and most important part of the Red Cross program in France. More than twelve base hospitals organized by the Red Cross, and now mustered into the Army Medical Corps are in service in France. The Red Cross is also administering, under Army control, the hospital at Nuilly formerly known as the American Ambulance, together with Dr. Joseph A. Blake's hospital in Paris.

The Red Cross is serving 3423 military hospitals, both French and American, through the Hospital Supply Service, which operates sixteen warehouses and a motor transport system. Approximately 15,000 tons of material—hospital and general relief supplies—are distributed monthly from these warehouses. The Surgical Dressings Service reaches 2000 hospitals. American workshops in France will manufacture nitrous oxide, repair hospital apparatus, make splints and hospital appliances.

An appropriation of $100,000 has been made to enable the American doctors now in France to procure suitable buildings. Special laboratory equipment and animals for experimental purposes, for special military medical research work looking toward the recognition and study of diseases among soldiers, the eradication of lice, fleas and scabies, the treatment of trench nephritis, trench heart, war neurasthenia, exhaustion, lethal gases, shell concussion, wound infection, compound fractures, etc.

Relief of refugees throughout the devastated zone has been undertaken by the Red Cross. Relief warehouses have been placed at strategic points behind the lines, from which food, clothing, household goods, agricultural implements and tools are being distributed to the returning refugees. Foodstuffs to the value of $2,870,300 have already been bought in France or shipped there for military and civilian relief.

In good agricultural districts the Red Cross is co-operating with the French government and with American and English friends in assisting the population of ruined villages to begin repair of houses, etc.

At Evian, where French refugees, mostly women and children, who have been held prisoners behind the German lines are returned to France, the Red Cross has provided motor ambulances for the transportation of the sick and feeble and has opened children's hospitals. Hundreds arrive there almost daily, destitute and sick.

Special work has been begun for mothers, infants, and children. The Red Cross has sent three detachments of children's specialists to care for babies and expectant mothers, in the hope of checking the increase in infant mortality.

At two centers the Red Cross is caring for orphans and children from bombarded villages. A large refuge has been opened at one, at which sick and neglected children are being given expert medical care. From the other a traveling dispensary and shower bath is being sent out daily to make the rounds of the nearby villages.

In addition to the commission to France, commissions were sent to investigate conditions and extend immediate relief in Russia, Rumania, Serbia and Italy. The Russian Commission has completed its survey, and some of its members have returned to the United States, leaving an operating organization in Petrograd.

The Italian Commission has also returned to the United States, and an operating commission is to be sent to Italy as quickly as possible.

The commission to Italy used an appropriation of $200,000 for immediate relief in that country. The Red Cross acted promptly when the Italians were forced to retreat, pledging its aid through Ambassador Page and placing a special relief fund of $250,000 at its disposal. This was later raised to $750,000.

Commissions are at work in Rumania and Serbia. A commission and deputy commission have been assigned to England, and a special department has been set up for Belgium.

In Belgium the work of the Red Cross, which is confined to the part of the country still held by the Allies, is chiefly in co-operation with the relief interests of the King and Queen. The Red Cross is assisting Belgian hospitals and children refugees, aiding Belgian villagers to re-establish themselves in the devastated zone left by the retreating Germans, and helping to care for Belgian children, both in Belgium and in France and Switzerland.

The work of the Red Cross in Russia centers on the medical and surgical needs of the army. Several shipments of drugs and hospital supplies have been made, and a unit of 125 motor ambulances has been sent to Russia. The Red Cross has shipped two million pounds of condensed milk for the use of mothers and children in the large cities.

New Members

Baker, Walter E., Los Angeles.
Abramson, Max J., Los Angeles.
Feldman, Abraham, Los Angeles.
Purcell, Ruth, Los Angeles.
Shippey, Roderick H., Long Beach.
Wells, Maria C., Los Angeles.
Keller, Webster F., Van Nuys.
Bennett, Laura, Los Angeles.
Carter, Martin G., Los Angeles.
Gerson, T. Percival, Los Angeles.
Peppers, Chas. H., Los Angeles.
Tredway, Edward E., Pasadena.
Derrick, Dr. Jos. S., Los Angeles.
Stadelman, Eugene, Long Beach.
Schroeter, Oscar V., Los Angeles.
Bancroft, Irving E., Los Angeles.
Mace, Lloyd R., Hollywood.
Roome, A. E., Bisbee, Arizona.
McCreery, R. L., Happy Camp.
Miller, Chas. F., Los Angeles.
Metcalf, Clair F., South Pasadena.
Kellogg, P. S., Norwalk, Cal.
Ide, Clarence E., Los Angeles.
Cosgrave, Millicent, San Francisco.
Brusco, Henry D., San Francisco.
Anderson, Kathleen, San Diego.
Schaupp, Karl L., San Jose.
Wickett, Wm. H., Fullerton.
Moss, Joseph M., Camp Kearny.
Benton, J. J., Berkeley.
Kibbe, Minora E., Oakland.
Hoyt, Henry F., Long Beach.
Hanson, Wayne P., Los Angeles.
Conroy, C. P., Los Angeles.
Peterson, Anderson, Rochester, Minn.
Hibben, J. Severy, Pasadena.
Carson, Emma M., Los Angeles.
Sweet, Earl, Los Angeles.
Rogers, Albert C., Los Angeles.
Hughes, H. West, Los Angeles.
Dieterle, Karl L., Los Angeles.
Brandel, Harry M., Los Angeles.
Platt, Irving S., Los Angeles.
Haygood, A. G., Downey, Cal.
Converse, Geo. M., San Francisco.
Sproat, Samuel M., Portola.

Deaths

Small, Alvan E., of Oakland, died at his home on Dec. 14, following a heart attack.

Lee, Benjamin Brooks, died at the Buena Vista Sanatorium, San Francisco, Nov. 23, 1917, of pneumonia, aged 61 years.

Braunstein, Joseph, died at the Hotel Granada, San Francisco, on Dec. 16, 1917. He was a graduate of the University of Austria, '78.

Cheeney, Walter Sylvester, 788 14th St., Oakland; Med. Coll., S. F., California; died recently at his home in Oakland.

Whitten, Wm. Daniel, of San Diego, Cal.; Univ. Mich., Ann Arbor, '02; died at the Pottenger Sanitarium, Monrovia, Calif., on Dec. 5, 1917.

Torello, E. N., died Oct. 28, 1917; aged 61; S. F.

Kent, R. W., of San Francisco; Med. Dept. Univ. City of New York, '86, (C) '89; died in Calcutta, India, Sept. 30, 1917.

Dr. John Taylor Jones.

Died—At Grass Valley, Monday, November 19, 1917, John Taylor Jones, M. D., aged 42 years.

John Taylor Jones was a native of Grass Valley, being the son of the late Dr. W. C. Jones of that city. Graduating from Cooper Medical College in 1898, he spent a year's internship in Lane Hospital before entering practice in his native city. From that time until the commencement in 1908 of his final illness, Dr. Jones' professional career was one of increasing success. As a result of his exceptionally brilliant mental gifts, combined with an apparently tireless energy, he became known, not only to the laity but also to the members of the profession, as one of the foremost surgeons in Northern California. The members of his local medical society elected him twice as President, and he was also honored by the Northern California District Medical Society by being elected to the Presidency of that body in 1905. An injury in 1908, which was the commencement of the illness which eventually caused his death, cut short his career. For nearly ten years he was doomed to a life of semi-invalidism, a sentence which he bore with patience and uncomplaining fortitude.

It was the privilege of the writer of these lines to know John Jones very intimately during nearly all of his medical life and to be associated with him frequently in consultation. These associations led to a firm lasting friendship, founded on the part of the author upon respect for his clean-minded, generous, sportsmanlike character and admiration for his brilliant mental attainments, his rare diagnostic acumen and remarkable surgical ability. He possessed the patience, the sympathy, the broadmindedness and the faithfulness to duty which, combined with professional skill, go to make up the exceptionally successful and beloved physician. Through all the years of acquaintanceship, in fair weather or foul, in prosperity or adversity, in health or in sickness, he was the same kind, generous, wholesouled, charming gentleman, and when the soul of John Jones left his tired wan frame on that morning of November 19, just as the morning sun was tinting the foothills of the Sierras he loved and where he had so faithfully labored, there passed from this life one of the most lovable men it has been the privilege of the author of this very inadequate tribute to meet.

R. A. P.